



**BRUNEI DARUSSALAM
TREATY SERIES**

Law of the Sea and Maritime



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CONTENTS

1. Foreword	5
2. Agreement Relating to the Implementation of Part XI of the United Convention on the Law of the Sea	7
3. United Nations Convention on the Law of the Sea	30
4. Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships 1973	252
5. Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia	411
6. International Convention for the Safety of Life at Sea	424



F OREWORD

Assalamu `alaikum warahmatullaahi wabarakaatuh

International law is an area of law that we would regard as being important in regulating the relationship between States and other international entities. Its importance has not dwindled over the centuries but has evolved to adapt to emerging issues of the modern world and the rise in new actors in the international plain, particularly international organisations.

Furthermore, international law issues are no longer limited to warfare and diplomatic relations but have now extended to matters such as trade, environment, and transnational organised crime and more are aimed at individuals.

The Brunei Darussalam Treaty Series is a compilation of all multilateral treaties that Brunei Darussalam, has ratified or acceded. The information provided includes the date of entry into force of the treaty, reservations or declarations, an executive summary of the treaty and the text of the treaty.

For this first edition we have covered 3 areas of international law, Counter Terrorism, Intellectual Property, and Law of the Sea and Maritime but we intend to add in more topics in due course covering areas such as international trade, environment, and transnational organised crime.

It is my hope that the Brunei Darussalam Treaty Series would serve as a beneficial resource not only to practitioners in international law, but to policy makers, lawyers, academics and even students. As in any series of publication, the Brunei Darussalam Treaty Series will be updated and improvised from time to time to ensure that it remains a relevant and useful resource.

I commend the International Affairs Division, the Brunei Darussalam Treaty Series Committee, led by the Chairman Hjh Dyg Nor Hashimah binti Haji Mohd Taib, Assistant Solicitor-General, and all others who have contributed to this excellent initiative.

Wabillahit Taufik Walhidayah, Wassalamualaikum Warahmatullahi Wabarakatuh

**DATIN SERI PADUKA HAJAH HAYATI BINTI PEHIN ORANG KAYA
SHAHBANDAR DATO SERI PADUKA HJ MOHD SALLEH
ATTORNEY GENERAL**

BRUNEI DARUSSALAM TREATY SERIES COMMITTEE :

In preparation for this first edition of the Brunei Darussalam Treaty Series, a committee was set up within the International Affairs Division of the Attorney General's Chambers. The members of the committee whose services are gratefully acknowledged are:

Chairman:

Hjh Dyg Nor Hashimah Hj Mohd Taib, Assistant Solicitor General and Head of the International Affairs Division.

Members:

Dyg Elma Darlini Hj Sulaiman, Deputy Senior Counsel, Head of Treaties and Human Rights Unit

Dyg Riana Dewi Hj Aji, Deputy Senior Counsel, Head of the International Organisations and Law of the Sea Unit.

Dyg Nur al-Ain Dr Hj Abdullah, Deputy Senior Counsel, Head of International Trade and Intellectual Property Unit.

Officers and staff of the International Affairs Division, the ICT Unit as well as newly recruited officers on rotation and the students on attachment at the International Affairs Division also contributed tremendously in the publication of this Brunei Darussalam Treaty Series. We would also like to acknowledge the services rendered by the Government Printers Department.

**AGREEMENT RELATING TO THE IMPLEMENTATION OF PART XI OF THE
UNITED NATIONS CONVENTION ON THE LAW OF THE SEA**

Date and Place of Adoption of the Agreement	:	28 th July 1994, New York
Date of Entry into Force of the Agreement	:	28 th July 1996
Date of Accession by Brunei Darussalam	:	5 th November 1996
Date of Entry into Force for Brunei Darussalam	:	5 th November 1996
Reservations / Declarations	:	None
Applicable Legislation as of 19 th January 2013	:	None

Executive Summary:

The Agreement is intended to address and implement seabed mining issues under Part XI of the United Nations Convention on the Law of the Sea. The Agreement has an Annex which also governs various procedural issues including costs to States Parties and institutional arrangements, decision-making, transfer of technology, economic assistance as well as the establishment of the Finance Committee.

BRUNEI DARUSSALAM TREATY SERIES

Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea

Source of Text: <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N94/332/98/PDF/N9433298.pdf?OpenElement>

THE STATES Parties to this Agreement,

RECOGNIZING the important contribution of the United Nations Convention on the Law of the Sea of 10 December 1982 (hereinafter referred to as "the Convention") to the maintenance of peace, justice and progress for all peoples of the world,

REAFFIRMING that the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction (hereinafter referred to as "the Area"), as well as the resources of the Area, are the common heritage of mankind,

MINDFUL of the importance of the Convention for the protection and preservation of the marine environment and of the growing concern for the global environment,

HAVING considered the report of the Secretary-General of the United Nations on the results of the informal consultations among States held from 1990 to 1994 on outstanding issues relating to Part XI and related provisions of the Convention (hereinafter referred to as "Part XI"),

NOTING the political and economic changes, including market-oriented approaches, affecting the implementation of Part XI,

WISHING to facilitate universal participation in the Convention,

CONSIDERING that an agreement relating to the implementation of Part XI would best meet that objective,

HAVE AGREED as follows:

Article 1
Implementation of Part XI

1. The States Parties to this Agreement undertake to implement Part XI in accordance with this Agreement.
2. The Annex forms an integral part of this Agreement.

Article 2

Relationship between This Agreement and Part XI

1. The provisions of this Agreement and Part XI shall be interpreted and applied together as a single instrument. In the event of any inconsistency between this Agreement and Part XI, the provisions of this Agreement shall prevail.
2. Articles 309 to 319 of the Convention shall apply to this Agreement as they apply to the Convention.

Article 3

Signature

This Agreement shall remain open for signature at United Nations Headquarters by the States and entities referred to in article 305, paragraph 1 (a), (c), (d), (e) and (f), of the Convention for 12 months from the date of its adoption.

Article 4

Consent to be Bound

1. After the adoption of this Agreement, any instrument of ratification or formal confirmation of or accession to the Convention shall also represent consent to be bound by this Agreement.
2. No State or entity may establish its consent to be bound by this Agreement unless it has previously established or establishes at the same time its consent to be bound by the Convention.
3. A State or entity referred to in article 3 may express its consent to be bound by this Agreement by:
 - (a) Signature not subject to ratification, formal confirmation or the procedure set out in article 5;
 - (b) Signature subject to ratification or formal confirmation, followed by ratification or formal confirmation;
 - (c) Signature subject to the procedure set out in article 5; or
 - (d) Accession.

BRUNEI DARUSSALAM TREATY SERIES

Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea

4. Formal confirmation by the entities referred to in article 305, paragraph 1 (f), of the Convention shall be in accordance with Annex IX of the Convention.
5. The instruments of ratification, formal confirmation or accession shall be deposited with the Secretary-General of the United Nations.

Article 5
Simplified Procedure

1. A State or entity which has deposited before the date of the adoption of this Agreement an instrument of ratification or formal confirmation of or accession to the Convention and which has signed this Agreement in accordance with article 4, paragraph 3 (c), shall be considered to have established its consent to be bound by this Agreement 12 months after the date of its adoption, unless that State or entity notifies the depositary in writing before that date that it is not availing itself of the simplified procedure set out in this article.
2. In the event of such notification, consent to be bound by this Agreement shall be established in accordance with article 4, paragraph 3 (b).

Article 6
Entry Into Force

1. This Agreement shall enter into force 30 days after the date on which 40 States have established their consent to be bound in accordance with articles 4 and 5, provided that such States include at least seven of the States referred to in paragraph 1 (a) of resolution II of the Third United Nations Conference on the Law of the Sea (hereinafter referred to as "resolution II") and that at least five of those States are developed States. If these conditions for entry into force are fulfilled before 16 November 1994, this Agreement shall enter into force on 16 November 1994.
2. For each State or entity establishing its consent to be bound by this Agreement after the requirements set out in paragraph 1 have been fulfilled, this Agreement shall enter into force on the thirtieth day following the date of establishment of its consent to be bound.

Article 7
Provisional Application

1. If on 16 November 1994 this Agreement has not entered into force, it shall be applied provisionally pending its entry into force by:
 - (a) States which have consented to its adoption in the General Assembly of the United Nations, except any such State which before 16 November 1994 notifies the

BRUNEI DARUSSALAM TREATY SERIES

Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea

- depository in writing either that it will not so apply this Agreement or that it will consent to such application only upon subsequent signature or notification in writing;
- (b) States and entities which sign this Agreement, except any such State or entity which notifies the depository in writing at the time of signature that it will not so apply this Agreement;
 - (c) States and entities which consent to its provisional application by so notifying the depository in writing;
 - (d) States which accede to this Agreement.
2. All such States and entities shall apply this Agreement provisionally in accordance with their national or internal laws and regulations, with effect from 16 November 1994 or the date of signature, notification of consent or accession, if later.
3. Provisional application shall terminate upon the date of entry into force of this Agreement. In any event, provisional application shall terminate on 16 November 1998 if at that date the requirement in article 6, paragraph 1, of consent to be bound by this Agreement by at least seven of the States (of which at least five must be developed States) referred to in paragraph 1 (a) of resolution II has not been fulfilled.

Article 8

States Parties

- 1. For the purposes of this Agreement, "States Parties" means States which have consented to be bound by this Agreement and for which this Agreement is in force.
- 2. This Agreement applies *mutatis mutandis* to the entities referred to in article 305, paragraph 1 (c), (d), (e) and (f), of the Convention which become Parties to this Agreement in accordance with the conditions relevant to each, and to that extent "States Parties" refers to those entities.

Article 9

Depositary

The Secretary-General of the United Nations shall be the depositary of this Agreement.

BRUNEI DARUSSALAM TREATY SERIES

Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea

Article 10
Authentic Texts

The original of this Agreement, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

IN WITNESS WHEREOF, the undersigned Plenipotentiaries, being duly authorized thereto, have signed this Agreement.

DONE AT NEW YORK, this day of July, one thousand nine hundred and ninety-four.

Annex

Section 1

Costs to States Parties and Institutional Arrangements

1. The International Seabed Authority (hereinafter referred to as "the Authority") is the organization through which States Parties to the Convention shall, in accordance with the regime for the Area established in Part XI and this Agreement, organize and control activities in the Area, particularly with a view to administering the resources of the Area. The powers and functions of the Authority shall be those expressly conferred upon it by the Convention. The Authority shall have such incidental powers, consistent with the Convention, as are implicit in, and necessary for, the exercise of those powers and functions with respect to activities in the Area.
2. In order to minimize costs to States Parties, all organs and subsidiary bodies to be established under the Convention and this Agreement shall be cost-effective. This principle shall also apply to the frequency, duration and scheduling of meetings.
3. The setting up and the functioning of the organs and subsidiary bodies of the Authority shall be based on an evolutionary approach, taking into account the functional needs of the organs and subsidiary bodies concerned in order that they may discharge effectively their respective responsibilities at various stages of the development of activities in the Area.
4. The early functions of the Authority upon entry into force of the Convention shall be carried out by the Assembly, the Council, the Secretariat, the Legal and Technical Commission and the Finance Committee. The functions of the Economic Planning Commission shall be performed by the Legal and Technical Commission until such time as the Council decides otherwise or until the approval of the first plan of work for exploitation.
5. Between the entry into force of the Convention and the approval of the first plan of work for exploitation, the Authority shall concentrate on:
 - (a) Processing of applications for approval of plans of work for exploration in accordance with Part XI and this Agreement;
 - (b) Implementation of decisions of the Preparatory Commission for the International Seabed Authority and for the International Tribunal for the Law of the Sea (hereinafter referred to as "the Preparatory Commission") relating to the registered pioneer investors and their certifying States, including their rights and obligations, in accordance with article 308, paragraph 5, of the Convention and resolution II, paragraph 13;

BRUNEI DARUSSALAM TREATY SERIES

Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea

- (c) Monitoring of compliance with plans of work for exploration approved in the form of contracts;
 - (d) Monitoring and review of trends and developments relating to deep seabed mining activities, including regular analysis of world metal market conditions and metal prices, trends and prospects;
 - (e) Study of the potential impact of mineral production from the Area on the economies of developing land-based producers of those minerals which are likely to be most seriously affected, with a view to minimizing their difficulties and assisting them in their economic adjustment, taking into account the work done in this regard by the Preparatory Commission;
 - (f) Adoption of rules, regulations and procedures necessary for the conduct of activities in the Area as they progress. Notwithstanding the provisions of Annex III, article 17, paragraph 2 (b) and (c), of the Convention, such rules, regulations and procedures shall take into account the terms of this Agreement, the prolonged delay in commercial deep seabed mining and the likely pace of activities in the Area;
 - (g) Adoption of rules, regulations and procedures incorporating applicable standards for the protection and preservation of the marine environment;
 - (h) Promotion and encouragement of the conduct of marine scientific research with respect to activities in the Area and the collection and dissemination of the results of such research and analysis, when available, with particular emphasis on research related to the environmental impact of activities in the Area;
 - (i) Acquisition of scientific knowledge and monitoring of the development of marine technology relevant to activities in the Area, in particular technology relating to the protection and preservation of the marine environment;
 - (j) Assessment of available data relating to prospecting and exploration;
 - (k) Timely elaboration of rules, regulations and procedures for exploitation, including those relating to the protection and preservation of the marine environment.
- 6.
- (a) An application for approval of a plan of work for exploration shall be considered by the Council following the receipt of a recommendation on the application from the Legal and Technical Commission. The processing of an application for approval of a plan of work

BRUNEI DARUSSALAM TREATY SERIES

Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea

for exploration shall be in accordance with the provisions of the Convention, including Annex III thereof, and this Agreement, and subject to the following:

- i) A plan of work for exploration submitted on behalf of a State or entity, or any component of such entity, referred to in resolution II, paragraph 1 (a) (ii) or (iii), other than a registered pioneer investor, which had already undertaken substantial activities in the Area prior to the entry into force of the Convention, or its successor in interest, shall be considered to have met the financial and technical qualifications necessary for approval of a plan of work if the sponsoring State or States certify that the applicant has expended an amount equivalent to at least US\$ 30 million in research and exploration activities and has expended no less than 10 per cent of that amount in the location, survey and evaluation of the area referred to in the plan of work. If the plan of work otherwise satisfies the requirements of the Convention and any rules, regulations and procedures adopted pursuant thereto, it shall be approved by the Council in the form of a contract. The provisions of section 3, paragraph 11, of this Annex shall be interpreted and applied accordingly;
- ii) Notwithstanding the provisions of resolution II, paragraph 8 (a), a registered pioneer investor may request approval of a plan of work for exploration within 36 months of the entry into force of the Convention. The plan of work for exploration shall consist of documents, reports and other data submitted to the Preparatory Commission both before and after registration and shall be accompanied by a certificate of compliance, consisting of a factual report describing the status of fulfilment of obligations under the pioneer investor regime, issued by the Preparatory Commission in accordance with resolution II, paragraph 11 (a). Such a plan of work shall be considered to be approved. Such an approved plan of work shall be in the form of a contract concluded between the Authority and the registered pioneer investor in accordance with Part XI and this Agreement. The fee of US\$ 250,000 paid pursuant to resolution II, paragraph 7 (a), shall be deemed to be the fee relating to the exploration phase pursuant to section 8, paragraph 3, of this Annex. Section 3, paragraph 11, of this Annex shall be interpreted and applied accordingly;
- iii) In accordance with the principle of non-discrimination, a contract with a State or entity or any component of such entity referred to in subparagraph (a) (i) shall include arrangements which shall be similar to and no less favourable than those agreed with any registered pioneer investor referred to in subparagraph (a) (ii).

If any of the States or entities or any components of such entities referred to in subparagraph (a) (i) are granted more favourable arrangements, the Council shall make similar and no less favourable arrangements with regard to the rights and obligations assumed by the registered pioneer investors referred to in subparagraph

BRUNEI DARUSSALAM TREATY SERIES

Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea

- (a) (ii), provided that such arrangements do not affect or prejudice the interests of the Authority;
- iv) A State sponsoring an application for a plan of work pursuant to the provisions of subparagraph (a) (i) or (ii) may be a State Party or a State which is applying this Agreement provisionally in accordance with article 7, or a State which is a member of the Authority on a provisional basis in accordance with paragraph 12;
- v) Resolution II, paragraph 8 (c), shall be interpreted and applied in accordance with subparagraph (a) (iv).
- (b) The approval of a plan of work for exploration shall be in accordance with article 153, paragraph 3, of the Convention.
7. An application for approval of a plan of work shall be accompanied by an assessment of the potential environmental impacts of the proposed activities and by a description of a programme for oceanographic and baseline environmental studies in accordance with the rules, regulations and procedures adopted by the Authority.
8. An application for approval of a plan of work for exploration, subject to paragraph 6 (a) (i) or (ii), shall be processed in accordance with the procedures set out in section 3, paragraph 11, of this Annex.
9. A plan of work for exploration shall be approved for a period of 15 years. Upon the expiration of a plan of work for exploration, the contractor shall apply for a plan of work for exploitation unless the contractor has already done so or has obtained an extension for the plan of work for exploration. Contractors may apply for such extensions for periods of not more than five years each. Such extensions shall be approved if the contractor has made efforts in good faith to comply with the requirements of the plan of work but for reasons beyond the contractor's control has been unable to complete the necessary preparatory work for proceeding to the exploitation stage or if the prevailing economic circumstances do not justify proceeding to the exploitation stage.
10. Designation of a reserved area for the Authority in accordance with Annex III, article 8, of the Convention shall take place in connection with approval of an application for a plan of work for exploration or approval of an application for a plan of work for exploration and exploitation.
11. Notwithstanding the provisions of paragraph 9, an approved plan of work for exploration which is sponsored by at least one State provisionally applying this Agreement shall terminate if such a State ceases to apply this Agreement provisionally and has not become a member on a provisional basis in accordance with paragraph 12 or has not become a State Party.
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BRUNEI DARUSSALAM TREATY SERIES

Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea

12. Upon the entry into force of this Agreement, States and entities referred to in article 3 of this Agreement which have been applying it provisionally in accordance with article 7 and for which it is not in force may continue to be members of the Authority on a provisional basis pending its entry into force for such States and entities, in accordance with the following subparagraphs:
- (a) If this Agreement enters into force before 16 November 1996, such States and entities shall be entitled to continue to participate as members of the Authority on a provisional basis upon notification to the depositary of the Agreement by such a State or entity of its intention to participate as a member on a provisional basis. Such membership shall terminate either on 16 November 1996 or upon the entry into force of this Agreement and the Convention for such member, whichever is earlier. The Council may, upon the request of the State or entity concerned, extend such membership beyond 16 November 1996 for a further period or periods not exceeding a total of two years provided that the Council is satisfied that the State or entity concerned has been making efforts in good faith to become a party to the Agreement and the Convention;
 - (b) If this Agreement enters into force after 15 November 1996, such States and entities may request the Council to grant continued membership in the Authority on a provisional basis for a period or periods not extending beyond 16 November 1998. The Council shall grant such membership with effect from the date of the request if it is satisfied that the State or entity has been making efforts in good faith to become a party to the Agreement and the Convention;
 - (c) States and entities which are members of the Authority on a provisional basis in accordance with subparagraph (a) or (b) shall apply the terms of Part XI and this Agreement in accordance with their national or internal laws, regulations and annual budgetary appropriations and shall have the same rights and obligations as other members, including:
 - i) The obligation to contribute to the administrative budget of the Authority in accordance with the scale of assessed contributions;
 - ii) The right to sponsor an application for approval of a plan of work for exploration. In the case of entities whose components are natural or juridical persons possessing the nationality of more than one State, a plan of work for exploration shall not be approved unless all the States whose natural or juridical persons comprise those entities are States Parties or members on a provisional basis;
 - (d) Notwithstanding the provisions of paragraph 9, an approved plan of work in the form of a contract for exploration which was sponsored pursuant to subparagraph (c) (ii) by

Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea

a State which was a member on a provisional basis shall terminate if such membership ceases and the State or entity has not become a State Party;

- (e) If such a member has failed to make its assessed contributions or otherwise failed to comply with its obligations in accordance with this paragraph, its membership on a provisional basis shall be terminated.

13. The reference in Annex III, article 10, of the Convention to performance which has not been satisfactory shall be interpreted to mean that the contractor has failed to comply with the requirements of an approved plan of work in spite of a written warning or warnings from the Authority to the contractor to comply therewith.

14. The Authority shall have its own budget. Until the end of the year following the year during which this Agreement enters into force, the administrative expenses of the Authority shall be met through the budget of the United Nations. Thereafter, the administrative expenses of the Authority shall be met by assessed contributions of its members, including any members on a provisional basis, in accordance with articles 171, subparagraph (a), and 173 of the Convention and this Agreement, until the Authority has sufficient funds from other sources to meet those expenses. The Authority shall not exercise the power referred to in article 174, paragraph 1, of the Convention to borrow funds to finance its administrative budget.

15. The Authority shall elaborate and adopt, in accordance with article 162, paragraph 2 (o) (ii), of the Convention, rules, regulations and procedures based on the principles contained in sections 2, 5, 6, 7 and 8 of this Annex, as well as any additional rules, regulations and procedures necessary to facilitate the approval of plans of work for exploration or exploitation, in accordance with the following subparagraphs:

- (a) The Council may undertake such elaboration any time it deems that all or any of such rules, regulations or procedures are required for the conduct of activities in the Area, or when it determines that commercial exploitation is imminent, or at the request of a State whose national intends to apply for approval of a plan of work for exploitation;
- (b) If a request is made by a State referred to in subparagraph (a) the Council shall, in accordance with article 162, paragraph 2 (o), of the Convention, complete the adoption of such rules, regulations and procedures within two years of the request;
- (c) If the Council has not completed the elaboration of the rules, regulations and procedures relating to exploitation within the prescribed time and an application for approval of a plan of work for exploitation is pending, it shall none the less consider and provisionally approve such plan of work based on the provisions of the Convention and any rules, regulations and procedures that the Council may have adopted provisionally, or on the basis of the norms contained in the Convention and

the terms and principles contained in this Annex as well as the principle of non-discrimination among contractors.

16. The draft rules, regulations and procedures and any recommendations relating to the provisions of Part XI, as contained in the reports and recommendations of the Preparatory Commission, shall be taken into account by the Authority in the adoption of rules, regulations and procedures in accordance with Part XI and this Agreement.
17. The relevant provisions of Part XI, section 4, of the Convention shall be interpreted and applied in accordance with this Agreement.

Section 2

The Enterprise

1. The Secretariat of the Authority shall perform the functions of the Enterprise until it begins to operate independently of the Secretariat. The Secretary-General of the Authority shall appoint from within the staff of the Authority an interim Director-General to oversee the performance of these functions by the Secretariat.

These functions shall be:

- (a) Monitoring and review of trends and developments relating to deep seabed mining activities, including regular analysis of world metal market conditions and metal prices, trends and prospects;
- (b) Assessment of the results of the conduct of marine scientific research with respect to activities in the Area, with particular emphasis on research related to the environmental impact of activities in the Area;
- (c) Assessment of available data relating to prospecting and exploration, including the criteria for such activities;
- (d) Assessment of technological developments relevant to activities in the Area, in particular technology relating to the protection and preservation of the marine environment;
- (e) Evaluation of information and data relating to areas reserved for the Authority;
- (f) Assessment of approaches to joint-venture operations;
- (g) Collection of information on the availability of trained manpower;

BRUNEI DARUSSALAM TREATY SERIES

Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea

- (h) Study of managerial policy options for the administration of the Enterprise at different stages of its operations.
2. The Enterprise shall conduct its initial deep seabed mining operations through joint ventures. Upon the approval of a plan of work for exploitation for an entity other than the Enterprise, or upon receipt by the Council of an application for a joint-venture operation with the Enterprise, the Council shall take up the issue of the functioning of the Enterprise independently of the Secretariat of the Authority. If joint-venture operations with the Enterprise accord with sound commercial principles, the Council shall issue a directive pursuant to article 170, paragraph 2, of the Convention providing for such independent functioning.
 3. The obligation of States Parties to fund one mine site of the Enterprise as provided for in Annex IV, article 11, paragraph 3, of the Convention shall not apply and States Parties shall be under no obligation to finance any of the operations in any mine site of the Enterprise or under its joint-venture arrangements.
 4. The obligations applicable to contractors shall apply to the Enterprise. Notwithstanding the provisions of article 153, paragraph 3, and Annex III, article 3, paragraph 5, of the Convention, a plan of work for the Enterprise upon its approval shall be in the form of a contract concluded between the Authority and the Enterprise.
 5. A contractor which has contributed a particular area to the Authority as a reserved area has the right of first refusal to enter into a joint-venture arrangement with the Enterprise for exploration and exploitation of that area. If the Enterprise does not submit an application for a plan of work for activities in respect of such a reserved area within 15 years of the commencement of its functions independent of the Secretariat of the Authority or within 15 years of the date on which that area is reserved for the Authority, whichever is the later, the contractor which contributed the area shall be entitled to apply for a plan of work for that area provided it offers in good faith to include the Enterprise as a joint-venture partner.
 6. Article 170, paragraph 4, Annex IV and other provisions of the Convention relating to the Enterprise shall be interpreted and applied in accordance with this section.

Section 3
Decision-Making

1. The general policies of the Authority shall be established by the Assembly in collaboration with the Council.
2. As a general rule, decision-making in the organs of the Authority should be by consensus.

BRUNEI DARUSSALAM TREATY SERIES

Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea

3. If all efforts to reach a decision by consensus have been exhausted, decisions by voting in the Assembly on questions of procedure shall be taken by a majority of members present and voting, and decisions on questions of substance shall be taken by a two-thirds majority of members present and voting, as provided for in article 159, paragraph 8, of the Convention.
4. Decisions of the Assembly on any matter for which the Council also has competence or on any administrative, budgetary or financial matter shall be based on the recommendations of the Council. If the Assembly does not accept the recommendation of the Council on any matter, it shall return the matter to the Council for further consideration. The Council shall reconsider the matter in the light of the views expressed by the Assembly.
5. If all efforts to reach a decision by consensus have been exhausted, decisions by voting in the Council on questions of procedure shall be taken by a majority of members present and voting, and decisions on questions of substance, except where the Convention provides for decisions by consensus in the Council, shall be taken by a two-thirds majority of members present and voting, provided that such decisions are not opposed by a majority in any one of the chambers referred to in paragraph 9. In taking decisions the Council shall seek to promote the interests of all the members of the Authority.
6. The Council may defer the taking of a decision in order to facilitate further negotiation whenever it appears that all efforts at achieving consensus on a question have not been exhausted.
7. Decisions by the Assembly or the Council having financial or budgetary implications shall be based on the recommendations of the Finance Committee.
8. The provisions of article 161, paragraph 8 (b) and (c), of the Convention shall not apply.
9.
 - (a) Each group of States elected under paragraph 15 (a) to (c) shall be treated as a chamber for the purposes of voting in the Council. The developing States elected under paragraph 15 (d) and (e) shall be treated as a single chamber for the purposes of voting in the Council.
 - (b) Before electing the members of the Council, the Assembly shall establish lists of countries fulfilling the criteria for membership in the groups of States in paragraph 15 (a) to (d). If a State fulfils the criteria for membership in more than one group, it may only be proposed by one group for election to the Council and it shall represent only that group in voting in the Council

BRUNEI DARUSSALAM TREATY SERIES

Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea

10. Each group of States in paragraph 15 (a) to (d) shall be represented in the Council by those members nominated by that group. Each group shall nominate only as many candidates as the number of seats required to be filled by that group. When the number of potential candidates in each of the groups referred to in paragraph 15 (a) to (e) exceeds the number of seats available in each of those respective groups, as a general rule, the principle of rotation shall apply. States members of each of those groups shall determine how this principle shall apply in those groups.
11.
 - (a) The Council shall approve a recommendation by the Legal and Technical Commission for approval of a plan of work unless by a two-thirds majority of its members present and voting, including a majority of members present and voting in each of the chambers of the Council, the Council decides to disapprove a plan of work. If the Council does not take a decision on a recommendation for approval of a plan of work within a prescribed period, the recommendation shall be deemed to have been approved by the Council at the end of that period. The prescribed period shall normally be 60 days unless the Council decides to provide for a longer period. If the Commission recommends the disapproval of a plan of work or does not make a recommendation, the Council may nevertheless approve the plan of work in accordance with its rules of procedure for decision-making on questions of substance.
 - (b) The provisions of article 162, paragraph 2 (j), of the Convention shall not apply.
12. Where a dispute arises relating to the disapproval of a plan of work, such dispute shall be submitted to the dispute settlement procedures set out in the Convention.
13. Decisions by voting in the Legal and Technical Commission shall be by a majority of members present and voting.
14. Part XI, section 4, subsections B and C, of the Convention shall be interpreted and applied in accordance with this section.
15. The Council shall consist of 36 members of the Authority elected by the Assembly in the following order:
 - (a) Four members from among those States Parties which, during the last five years for which statistics are available, have either consumed more than 2 per cent in value terms of total world consumption or have had net imports of more than 2 per cent in value terms of total world imports of the commodities produced from the categories of minerals to be derived from the Area, provided that the four members shall include one State from the Eastern European region having the largest economy in that region in terms of gross domestic product and the State, on the date of entry into force of the

BRUNEI DARUSSALAM TREATY SERIES

Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea

Convention, having the largest economy in terms of gross domestic product, if such States wish to be represented in this group;

- (b) Four members from among the eight States Parties which have made the largest investments in preparation for and in the conduct of activities in the Area, either directly or through their nationals;
- (c) Four members from among States Parties which, on the basis of production in areas under their jurisdiction, are major net exporters of the categories of minerals to be derived from the Area, including at least two developing States whose exports of such minerals have a substantial bearing upon their economies;
- (d) Six members from among developing States Parties, representing special interests. The special interests to be represented shall include those of States with large populations, States which are land-locked or geographically disadvantaged, island States, States which are major importers of the categories of minerals and least developed States:
- (e) Eighteen members elected according to the principle of ensuring an equitable geographical distribution of seats in the Council as a whole, provided that each geographical region shall have at least one member elected under this subparagraph. For this purpose, the geographical regions shall be Africa, Asia, Eastern Europe, Latin America and the Caribbean and Western Europe and Others.

16. The provisions of article 161, paragraph 1, of the Convention shall not apply.

Section 4
Review Conference

The provisions relating to the Review Conference in article 155, paragraphs 1, 3 and 4, of the Convention shall not apply. Notwithstanding the provisions of article 314, paragraph 2, of the Convention, the Assembly, on the recommendation of the Council, may undertake at any time a review of the matters referred to in article 155, paragraph 1, of the Convention. Amendments relating to this Agreement and Part XI shall be subject to the procedures contained in articles 314, 315 and 316 of the Convention, provided that the principles, regime and other terms referred to in article 155, paragraph 2, of the Convention shall be maintained and the rights referred to in paragraph 5 of that article shall not be affected.

Section 5
Transfer of Technology

1. In addition to the provisions of article 144 of the Convention, transfer of technology for the purposes of Part XI shall be governed by the following principles:
 - (a) The Enterprise, and developing States wishing to obtain deep seabed mining technology, shall seek to obtain such technology on fair and reasonable commercial terms and conditions on the open market, or through joint-venture arrangements;
 - (b) If the Enterprise or developing States are unable to obtain deep seabed mining technology, the Authority may request all or any of the contractors and their respective sponsoring State or States to cooperate with it in facilitating the acquisition of deep seabed mining technology by the Enterprise or its joint venture, or by a developing State or States seeking to acquire such technology on fair and reasonable commercial terms and conditions, consistent with the effective protection of intellectual property rights. States Parties undertake to cooperate fully and effectively with the Authority for this purpose and to ensure that contractors sponsored by them also cooperate fully with the Authority;
 - (c) As a general rule, States Parties shall promote international technical and scientific cooperation with regard to activities in the Area either between the parties concerned or by developing training, technical assistance and scientific cooperation programmes in marine science and technology and the protection and preservation of the marine environment.
2. The provisions of Annex III, article 5, of the Convention shall not apply.

Section 6
Production Policy

1. The production policy of the Authority shall be based on the following principles:
 - (a) Development of the resources of the Area shall take place in accordance with sound commercial principles;
 - (b) The provisions of the General Agreement on Tariffs and Trade, its relevant codes and successor or superseding agreements shall apply with respect to activities in the Area;
 - (c) In particular, there shall be no subsidization of activities in the Area except as may be permitted under the agreements referred to in subparagraph (b). Subsidization for the

BRUNEI DARUSSALAM TREATY SERIES

Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea

- purpose of these principles shall be defined in terms of the agreements referred to in subparagraph (b);
- (d) There shall be no discrimination between minerals derived from the Area and from other sources. There shall be no preferential access to markets for such minerals or for imports of commodities produced from such minerals, in particular:
- i) By the use of tariff or non-tariff barriers; and
 - ii) Given by States Parties to such minerals or commodities produced by their state enterprises or by natural or juridical persons which possess their nationality or are controlled by them or their nationals;
- (e) The plan of work for exploitation approved by the Authority in respect of each mining area shall indicate an anticipated production schedule which shall include the estimated maximum amounts of minerals that would be produced per year under the plan of work;
- (f) The following shall apply to the settlement of disputes concerning the provisions of the agreements referred to in subparagraph (b):
- i) Where the States Parties concerned are parties to such agreements, they shall have recourse to the dispute settlement procedures of those agreements;
 - ii) Where one or more of the States Parties concerned are not parties to such agreements, they shall have recourse to the dispute settlement procedures set out in the Convention;
- (g) In circumstances where a determination is made under the agreements referred to in subparagraph (b) that a State Party has engaged in subsidization which is prohibited or has resulted in adverse effects on the interests of another State Party and appropriate steps have not been taken by the relevant State Party or States Parties, a State Party may request the Council to take appropriate measures.
2. The principles contained in paragraph 1 shall not affect the rights and obligations under any provision of the agreements referred to in paragraph 1 (b), as well as the relevant free trade and customs union agreements, in relations between States Parties which are parties to such agreements.
3. The acceptance by a contractor of subsidies other than those which may be permitted under the agreements referred to in paragraph 1 (b) shall constitute a violation of the fundamental terms of the contract forming a plan of work for the carrying out of activities in the Area.
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BRUNEI DARUSSALAM TREATY SERIES

Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea

4. Any State Party which has reason to believe that there has been a breach of the requirements of paragraphs 1 (b) to (d) or 3 may initiate dispute settlement procedures in conformity with paragraph 1 (f) or (g).
5. A State Party may at any time bring to the attention of the Council activities which in its view are inconsistent with the requirements of paragraph 1 (b) to (d).
6. The Authority shall develop rules, regulations and procedures which ensure the implementation of the provisions of this section, including relevant rules, regulations and procedures governing the approval of plans of work.
7. The provisions of article 151, paragraphs 1 to 7 and 9, article 162, paragraph 2 (q), article 165, paragraph 2 (n), and Annex III, article 6, paragraph 5, and article 7, of the Convention shall not apply.

Section 7

Economic Assistance

1. The policy of the Authority of assisting developing countries which suffer serious adverse effects on their export earnings or economies resulting from a reduction in the price of an affected mineral or in the volume of exports of that mineral, to the extent that such reduction is caused by activities in the Area, shall be based on the following principles:
 - (a) The Authority shall establish an economic assistance fund from a portion of the funds of the Authority which exceeds those necessary to cover the administrative expenses of the Authority. The amount set aside for this purpose shall be determined by the Council from time to time, upon the recommendation of the Finance Committee. Only funds from payments received from contractors, including the Enterprise, and voluntary contributions shall be used for the establishment of the economic assistance fund;
 - (b) Developing land-based producer States whose economies have been determined to be seriously affected by the production of minerals from the deep seabed shall be assisted from the economic assistance fund of the Authority;
 - (c) The Authority shall provide assistance from the fund to affected developing land-based producer States, where appropriate, in cooperation with existing global or regional development institutions which have the infrastructure and expertise to carry out such assistance programmes;

- (d) The extent and period of such assistance shall be determined on a case-by-case basis. In doing so, due consideration shall be given to the nature and magnitude of the problems encountered by affected developing land-based producer States.
2. Article 151, paragraph 10, of the Convention shall be implemented by means of measures of economic assistance referred to in paragraph 1. Article 160, paragraph 2 (l), article 162, paragraph 2 (n), article 164, paragraph 2 (d), article 171, subparagraph (f), and article 173, paragraph 2 (c), of the Convention shall be interpreted accordingly.

Section 8

Financial Terms of Contracts

1. The following principles shall provide the basis for establishing rules, regulations and procedures for financial terms of contracts:
- (a) The system of payments to the Authority shall be fair both to the contractor and to the Authority and shall provide adequate means of determining compliance by the contractor with such system;
- (b) The rates of payments under the system shall be within the range of those prevailing in respect of land-based mining of the same or similar minerals in order to avoid giving deep seabed miners an artificial competitive advantage or imposing on them a competitive disadvantage;
- (c) The system should not be complicated and should not impose major administrative costs on the Authority or on a contractor. Consideration should be given to the adoption of a royalty system or a combination of a royalty and profit-sharing system. If alternative systems are decided upon, the contractor has the right to choose the system applicable to its contract. Any subsequent change in choice between alternative systems, however, shall be made by agreement between the Authority and the contractor;
- (d) An annual fixed fee shall be payable from the date of commencement of commercial production. This fee may be credited against other payments due under the system adopted in accordance with subparagraph (c). The amount of the fee shall be established by the Council;
- (e) The system of payments may be revised periodically in the light of changing circumstances. Any changes shall be applied in a non-discriminatory manner. Such changes may apply to existing contracts only at the election of the contractor. Any subsequent change in choice between alternative systems shall be made by agreement between the Authority and the contractor;

- (f) Disputes concerning the interpretation or application of the rules and regulations based on these principles shall be subject to the dispute settlement procedures set out in the Convention.
2. The provisions of Annex III, article 13, paragraphs 3 to 10, of the Convention shall not apply.
3. With regard to the implementation of Annex III, article 13, paragraph 2, of the Convention, the fee for processing applications for approval of a plan of work limited to one phase, either the exploration phase or the exploitation phase, shall be US\$ 250,000.

Section 9

The Finance Committee

1. There is hereby established a Finance Committee. The Committee shall be composed of 15 members with appropriate qualifications relevant to financial matters. States Parties shall nominate candidates of the highest standards of competence and integrity.
2. No two members of the Finance Committee shall be nationals of the same State Party.
3. Members of the Finance Committee shall be elected by the Assembly and due account shall be taken of the need for equitable geographical distribution and the representation of special interests. Each group of States referred to in section 3, paragraph 15 (a), (b), (c) and (d), of this Annex shall be represented on the Committee by at least one member. Until the Authority has sufficient funds other than assessed contributions to meet its administrative expenses, the membership of the Committee shall include representatives of the five largest financial contributors to the administrative budget of the Authority. Thereafter, the election of one member from each group shall be on the basis of nomination by the members of the respective group, without prejudice to the possibility of further members being elected from each group.
4. Members of the Finance Committee shall hold office for a term of five years. They shall be eligible for re-election for a further term.
5. In the event of the death, incapacity or resignation of a member of the Finance Committee prior to the expiration of the term of office, the Assembly shall elect for the remainder of the term a member from the same geographical region or group of States.
6. Members of the Finance Committee shall have no financial interest in any activity relating to matters upon which the Committee has the responsibility to make recommendations. They shall not disclose, even after the termination of their functions,

BRUNEI DARUSSALAM TREATY SERIES

Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea

- any confidential information coming to their knowledge by reason of their duties for the Authority.
7. Decisions by the Assembly and the Council on the following issues shall take into account recommendations of the Finance Committee:
- (a) Draft financial rules, regulations and procedures of the organs of the Authority and the financial management and internal financial administration of the Authority;
 - (b) Assessment of contributions of members to the administrative budget of the Authority in accordance with article 160, paragraph 2 (e), of the Convention;
 - (c) All relevant financial matters, including the proposed annual budget prepared by the Secretary-General of the Authority in accordance with article 172 of the Convention and the financial aspects of the implementation of the programmes of work of the Secretariat;
 - (d) The administrative budget;
 - (e) Financial obligations of States Parties arising from the implementation of this Agreement and Part XI as well as the administrative and budgetary implications of proposals and recommendations involving expenditure from the funds of the Authority;
 - (f) Rules, regulations and procedures on the equitable sharing of financial and other economic benefits derived from activities in the Area and the decisions to be made thereon.
8. Decisions in the Finance Committee on questions of procedure shall be taken by a majority of members present and voting. Decisions on questions of substance shall be taken by consensus.
9. The requirement of article 162, paragraph 2 (y), of the Convention to establish a subsidiary organ to deal with financial matters shall be deemed to have been fulfilled by the establishment of the Finance Committee in accordance with this section.

**UNITED NATIONS CONVENTION ON THE LAW OF THE SEA
(UNCLOS)**

Date and Place of Adoption of Convention	:	10 th December 1982, Montego Bay
Date of Entry into Force of Convention	:	16 th November 1994
Date of Ratification by Brunei Darussalam	:	5 th November 1996
Date of Entry into Force for Brunei Darussalam	:	5 th November 1996
Reservations / Declarations	:	None
Applicable Legislations as of 19 th January 2013	:	
		i. Continental Shelf Proclamation 1954
		ii. North Borneo (Definition of Boundaries) Order in Council 1958
		iii. Sarawak (Definition of Boundaries) Order in Council of 1958
		iv. Territorial Waters of Brunei Act (CAP. 138)
		v. Exclusive Economic Zone Proclamation 1993
		vi. Brunei Fishery Limits Act (CAP. 130)
		vii. Penal Code (CAP. 22)
		viii. Criminal Procedure Code (CAP. 7)
		ix. Mining Act (CAP. 42)
		x. Petroleum Mining Act (CAP. 44)
		xi. Petroleum Pipelines (CAP. 45)
		xii. Brunei National Petroleum Company Sendirian Berhad Order, 2002
		xiii. Ports Act (CAP. 144)
		xiv. Customs Act (CAP. 36)
		xv. Immigration Act (CAP.17)
		xvi. Merchant Shipping Order, 2002
		xvii. Trafficking and Smuggling of Persons Order, 2004
		xviii. Admiralty Jurisdiction Act (CAP. 179)

Executive Summary:

The Convention provides a comprehensive regime governing the world's oceans, seas and their resources and has been described as a 'constitution for the oceans'. It symbolises the codification of customary international law and its progressive development in the international laws of the sea.

The Convention comprises 320 Articles and 9 Annexes and addresses a number of significant matters including delimitation, navigational rights, piracy, settlement of disputes and protection and preservation of the marine environment.

It has also established a number of bodies in order to ensure effective implementation of the Convention such as the Commission on the Limits of the Continental Shelf, the International Tribunal for the Law of the Sea and the International Seabed Authority.

BRUNEI DARUSSALAM TREATY SERIES

United Nations Convention on the Law of the Sea

Source of Text: http://www.un.org/Depts/los/convention_agreements/texts/unclos/unclos_e.pdf

PREAMBLE

The States Parties to this Convention,

PROMPTED by the desire to settle, in a spirit of mutual understanding and cooperation, all issues relating to the law of the sea and aware of the historic significance of this Convention as an important contribution to the maintenance of peace, justice and progress for all peoples of the world,

NOTING that developments since the United Nations Conferences on the Law of the Sea held at Geneva in 1958 and 1960 have accentuated the need for a new and generally acceptable Convention on the law of the sea,

CONSCIOUS that the problems of ocean space are closely interrelated and need to be considered as a whole,

RECOGNIZING the desirability of establishing through this Convention, with due regard for the sovereignty of all States, a legal order for the seas and oceans which will facilitate international communication, and will promote the peaceful uses of the seas and oceans, the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment,

BEARING IN MIND that the achievement of these goals will contribute to the realization of a just and equitable international economic order which takes into account the interests and needs of mankind as a whole and, in particular, the special interests and needs of developing countries, whether coastal or land-locked,

DESIRING by this Convention to develop the principles embodied in resolution 2749 (XXV) of 17 December 1970 in which the General Assembly of the United Nations solemnly declared *inter alia* that the area of the seabed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction, as well as its resources, are the common heritage of mankind, the exploration and exploitation of which shall be carried out for the benefit of mankind as a whole, irrespective of the geographical location of States,

BELIEVING that the codification and progressive development of the law of the sea achieved in this Convention will contribute to the strengthening of peace, security, cooperation and friendly relations among all nations in conformity with the principles of justice and equal rights and will promote the economic and social advancement of all peoples of the world, in accordance with the Purposes and Principles of the United Nations as set forth in the Charter,

AFFIRMING that matters not regulated by this Convention continue to be governed by the rules and principles of general international law,

HAVE AGREED AS FOLLOWS:

PART I

INTRODUCTION

Article 1

Use of Terms and Scope

1. For the purposes of this Convention:
 - (1) "Area" means the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction;
 - (2) "Authority" means the International Seabed Authority;
 - (3) "activities in the Area" means all activities of exploration for, and exploitation of, the resources of the Area;
 - (4) "pollution of the marine environment" means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities;
 - (5)
 - (a) "dumping" means:
 - (i) any deliberate disposal of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea;
 - (ii) any deliberate disposal of vessels, aircraft, platforms or other man-made structures at sea;
 - (b) "dumping" does not include:

- (i) the disposal of wastes or other matter incidental to, or derived from the normal operations of vessels, aircraft, platforms or other man-made structures at sea and their equipment, other than wastes or other matter transported by or to vessels, aircraft, platforms or other man-made structures at sea, operating for the purpose of disposal of such matter or derived from the treatment of such wastes or other matter on such vessels, aircraft, platforms or structures;
 - (ii) placement of matter for a purpose other than the mere disposal thereof, provided that such placement is not contrary to the aims of this Convention.
- 2.
- (1) "States Parties" means States which have consented to be bound by this Convention and for which this Convention is in force.
 - (2) This Convention applies mutatis mutandis to the entities referred to in article 305, paragraph 1(b), (c), (d), (e) and (f), which become Parties to this Convention in accordance with the conditions relevant to each, and to that extent "States Parties" refers to those entities.

PART II

TERRITORIAL SEA AND CONTIGUOUS ZONE

SECTION 1

GENERAL PROVISIONS

Article 2

Legal Status of the Territorial Sea, of the Air Space over the Territorial Sea and of its Bed and Subsoil

- 1. The sovereignty of a coastal State extends, beyond its land territory and internal waters and, in the case of an archipelagic State, its archipelagic waters, to an adjacent belt of sea, described as the territorial sea.
- 2. This sovereignty extends to the air space over the territorial sea as well as to its bed and subsoil.

3. The sovereignty over the territorial sea is exercised subject to this Convention and to other rules of international law.

SECTION 2

LIMITS OF THE TERRITORIAL SEA

Article 3

Breadth of the Territorial Sea

Every State has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baselines determined in accordance with this Convention.

Article 4

Outer Limit of the Territorial Sea

The outer limit of the territorial sea is the line every point of which is at a distance from the nearest point of the baseline equal to the breadth of the territorial sea.

Article 5

Normal Baseline

Except where otherwise provided in this Convention, the normal baseline for measuring the breadth of the territorial sea is the low-water line along the coast as marked on large-scale charts officially recognized by the coastal State.

Article 6

Reefs

In the case of islands situated on atolls or of islands having fringing reefs, the baseline for measuring the breadth of the territorial sea is the seaward low-water line of the reef, as shown by the appropriate symbol on charts officially recognized by the coastal State.

Article 7

Straight Baselines

1. In localities where the coastline is deeply indented and cut into, or if there is a fringe of islands along the coast in its immediate vicinity, the method of straight baselines joining

appropriate points may be employed in drawing the baseline from which the breadth of the territorial sea is measured.

2. Where because of the presence of a delta and other natural conditions the coastline is highly unstable, the appropriate points may be selected along the furthest seaward extent of the low-water line and, notwithstanding subsequent regression of the low-water line, the straight baselines shall remain effective until changed by the coastal State in accordance with this Convention.
3. The drawing of straight baselines must not depart to any appreciable extent from the general direction of the coast, and the sea areas lying within the lines must be sufficiently closely linked to the land domain to be subject to the regime of internal waters.
4. Straight baselines shall not be drawn to and from low-tide elevations, unless lighthouses or similar installations which are permanently above sea level have been built on them or except in instances where the drawing of baselines to and from such elevations has received general international recognition.
5. Where the method of straight baselines is applicable under paragraph 1, account may be taken, in determining particular baselines, of economic interests peculiar to the region concerned, the reality and the importance of which are clearly evidenced by long usage.
6. The system of straight baselines may not be applied by a State in such a manner as to cut off the territorial sea of another State from the high seas or an exclusive economic zone.

Article 8

Internal Waters

1. Except as provided in Part IV, waters on the landward side of the baseline of the territorial sea form part of the internal waters of the State.
2. Where the establishment of a straight baseline in accordance with the method set forth in article 7 has the effect of enclosing as internal waters areas which had not previously been considered as such, a right of innocent passage as provided in this Convention shall exist in those waters.

Article 9

Mouths of Rivers

If a river flows directly into the sea, the baseline shall be a straight line across the mouth of the river between points on the low-water line of its banks.

Article 10

Bays

1. This article relates only to bays the coasts of which belong to a single State.
2. For the purposes of this Convention, a bay is a well-marked indentation whose penetration is in such proportion to the width of its mouth as to contain land-locked waters and constitute more than a mere curvature of the coast. An indentation shall not, however, be regarded as a bay unless its area is as large as, or larger than, that of the semi-circle whose diameter is a line drawn across the mouth of that indentation.
3. For the purpose of measurement, the area of an indentation is that lying between the low-water mark around the shore of the indentation and a line joining the low-water mark of its natural entrance points. Where, because of the presence of islands, an indentation has more than one mouth, the semi-circle shall be drawn on a line as long as the sum total of the lengths of the lines across the different mouths. Islands within an indentation shall be included as if they were part of the water area of the indentation.
4. If the distance between the low-water marks of the natural entrance points of a bay does not exceed 24 nautical miles, a closing line may be drawn between these two low-water marks, and the waters enclosed thereby shall be considered as internal waters.
5. Where the distance between the low-water marks of the natural entrance points of a bay exceeds 24 nautical miles, a straight baseline of 24 nautical miles shall be drawn within the bay in such a manner as to enclose the maximum area of water that is possible with a line of that length.
6. The foregoing provisions do not apply to so-called "historic" bays, or in any case where the system of straight baselines provided for in article 7 is applied.

Article 11

Ports

For the purpose of delimiting the territorial sea, the outermost permanent harbour works which form an integral part of the harbour system are regarded as forming part of the coast. Off-shore installations and artificial islands shall not be considered as permanent harbour works.

Article 12
Roadsteads

Roadsteads which are normally used for the loading, unloading and anchoring of ships, and which would otherwise be situated wholly or partly outside the outer limit of the territorial sea, are included in the territorial sea.

Article 13
Low-Tide Elevations

1. A low-tide elevation is a naturally formed area of land which is surrounded by and above water at low tide but submerged at high tide. Where a low-tide elevation is situated wholly or partly at a distance not exceeding the breadth of the territorial sea from the mainland or an island, the low-water line on that elevation may be used as the baseline for measuring the breadth of the territorial sea.
2. Where a low-tide elevation is wholly situated at a distance exceeding the breadth of the territorial sea from the mainland or an island, it has no territorial sea of its own.

Article 14
Combination of Methods for Determining Baselines

The coastal State may determine baselines in turn by any of the methods provided for in the foregoing articles to suit different conditions.

Article 15
Delimitation of the Territorial Sea between States with Opposite or Adjacent Coasts

Where the coasts of two States are opposite or adjacent to each other, neither of the two States is entitled, failing agreement between them to the contrary, to extend its territorial sea beyond the median line every point of which is equidistant from the nearest points on the baselines from which the breadth of the territorial seas of each of the two States is measured. The above provision does not apply, however, where it is necessary by reason of historic title or other special circumstances to delimit the territorial seas of the two States in a way which is at variance therewith.

Article 16
Charts and Lists of Geographical Coordinates

1. The baselines for measuring the breadth of the territorial sea determined in accordance with articles 7, 9 and 10, or the limits derived there from, and the lines of delimitation

drawn in accordance with articles 12 and 15 shall be shown on charts of a scale or scales adequate for ascertaining their position. Alternatively, a list of geographical coordinates of points, specifying the geodetic datum, may be substituted.

2. The coastal State shall give due publicity to such charts or lists of geographical coordinates and shall deposit a copy of each such chart or list with the Secretary-General of the United Nations.

SECTION 3

INNOCENT PASSAGE IN THE TERRITORIAL SEA

SUBSECTION A

RULES APPLICABLE TO ALL SHIPS

Article 17

Right of Innocent Passage

Subject to this Convention, ships of all States, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea.

Article 18

Meaning of Passage

1. Passage means navigation through the territorial sea for the purpose of:
 - (a) traversing that sea without entering internal waters or calling at a roadstead or port facility outside internal waters; or
 - (b) proceeding to or from internal waters or a call at such roadstead or port facility.
2. Passage shall be continuous and expeditious. However, passage includes stopping and anchoring, but only in so far as the same are incidental to ordinary navigation or are rendered necessary by *force majeure* or distress or for the purpose of rendering assistance to persons, ships or aircraft in danger or distress.

Article 19
Meaning of Innocent Passage

1. Passage is innocent so long as it is not prejudicial to the peace, good order or security of the coastal State. Such passage shall take place in conformity with this Convention and with other rules of international law.

2. Passage of a foreign ship shall be considered to be prejudicial to the peace, good order or security of the coastal State if in the territorial sea it engages in any of the following activities:
 - (a) any threat or use of force against the sovereignty, territorial integrity or political independence of the coastal State, or in any other manner in violation of the principles of international law embodied in the Charter of the United Nations;
 - (b) any exercise or practice with weapons of any kind;
 - (c) any act aimed at collecting information to the prejudice of the defence or security of the coastal State;
 - (d) any act of propaganda aimed at affecting the defence or security of the coastal State;
 - (e) the launching, landing or taking on board of any aircraft;
 - (f) the launching, landing or taking on board of any military device;
 - (g) the loading or unloading of any commodity, currency or person contrary to the customs, fiscal, immigration or sanitary laws and regulations of the coastal State;
 - (h) any act of wilful and serious pollution contrary to this Convention;
 - (i) any fishing activities;
 - (j) the carrying out of research or survey activities;
 - (k) any act aimed at interfering with any systems of communication or any other facilities or installations of the coastal State;
 - (l) any other activity not having a direct bearing on passage.

Article 20

Submarines and Other Underwater Vehicles

In the territorial sea, submarines and other underwater vehicles are required to navigate on the surface and to show their flag.

Article 21

Laws and Regulations of the Coastal State Relating to Innocent Passage

1. The coastal State may adopt laws and regulations, in conformity with the provisions of this Convention and other rules of international law, relating to innocent passage through the territorial sea, in respect of all or any of the following:
 - (a) the safety of navigation and the regulation of maritime traffic;
 - (b) the protection of navigational aids and facilities and other facilities or installations;
 - (c) the protection of cables and pipelines;
 - (d) the conservation of the living resources of the sea;
 - (e) the prevention of infringement of the fisheries laws and regulations of the coastal State;
 - (f) the preservation of the environment of the coastal State and the prevention, reduction and control of pollution thereof;
 - (g) marine scientific research and hydrographic surveys;
 - (h) the prevention of infringement of the customs, fiscal, immigration or sanitary laws and regulations of the coastal State.
2. Such laws and regulations shall not apply to the design, construction, manning or equipment of foreign ships unless they are giving effect to generally accepted international rules or standards.
3. The coastal State shall give due publicity to all such laws and regulations.

4. Foreign ships exercising the right of innocent passage through the territorial sea shall comply with all such laws and regulations and all generally accepted international regulations relating to the prevention of collisions at sea.

Article 22

Sea Lanes and Traffic Separation Schemes in the Territorial Sea

1. The coastal State may, where necessary having regard to the safety of navigation, require foreign ships exercising the right of innocent passage through its territorial sea to use such sea lanes and traffic separation schemes as it may designate or prescribe for the regulation of the passage of ships.
2. In particular, tankers, nuclear-powered ships and ships carrying nuclear or other inherently dangerous or noxious substances or materials may be required to confine their passage to such sea lanes.
3. In the designation of sea lanes and the prescription of traffic separation schemes under this article, the coastal State shall take into account:
 - (a) the recommendations of the competent international organization;
 - (b) any channels customarily used for international navigation;
 - (c) the special characteristics of particular ships and channels; and
 - (d) the density of traffic.
4. The coastal State shall clearly indicate such sea lanes and traffic separation schemes on charts to which due publicity shall be given.

Article 23

Foreign Nuclear-Powered Ships and Ships Carrying Nuclear or Other Inherently Dangerous or Noxious Substances

Foreign nuclear-powered ships and ships carrying nuclear or other inherently dangerous or noxious substances shall, when exercising the right of innocent passage through the territorial sea, carry documents and observe special precautionary measures established for such ships by international agreements.

Article 24

Duties of the Coastal State

1. The coastal State shall not hamper the innocent passage of foreign ships through the territorial sea except in accordance with this Convention. In particular, in the application of this Convention or of any laws or regulations adopted in conformity with this Convention, the coastal State shall not:
 - (a) impose requirements on foreign ships which have the practical effect of denying or impairing the right of innocent passage; or
 - (b) discriminate in form or in fact against the ships of any State or against ships carrying cargoes to, from or on behalf of any State.
2. The coastal State shall give appropriate publicity to any danger to navigation, of which it has knowledge, within its territorial sea.

Article 25

Rights of Protection of the Coastal State

1. The coastal State may take the necessary steps in its territorial sea to prevent passage which is not innocent.
2. In the case of ships proceeding to internal waters or a call at a port facility outside internal waters, the coastal State also has the right to take the necessary steps to prevent any breach of the conditions to which admission of those ships to internal waters or such a call is subject.
3. The coastal State may, without discrimination in form or in fact among foreign ships, suspend temporarily in specified areas of its territorial sea the innocent passage of foreign ships if such suspension is essential for the protection of its security, including weapons exercises. Such suspension shall take effect only after having been duly published.

Article 26

Charges which May be Levied Upon Foreign Ships

1. No charge may be levied upon foreign ships by reason only of their passage through the territorial sea.

2. Charges may be levied upon a foreign ship passing through the territorial sea as payment only for specific services rendered to the ship. These charges shall be levied without discrimination.

SUBSECTION B

**RULES APPLICABLE TO MERCHANT SHIPS AND GOVERNMENT SHIPS
OPERATED FOR COMMERCIAL PURPOSES**

Article 27

Criminal Jurisdiction on Board a Foreign Ship

1. The criminal jurisdiction of the coastal State should not be exercised on board a foreign ship passing through the territorial sea to arrest any person or to conduct any investigation in connection with any crime committed on board the ship during its passage, save only in the following cases:
 - (a) if the consequences of the crime extend to the coastal State;
 - (b) if the crime is of a kind to disturb the peace of the country or the good order of the territorial sea;
 - (c) if the assistance of the local authorities has been requested by the master of the ship or by a diplomatic agent or consular officer of the flag State; or
 - (d) if such measures are necessary for the suppression of illicit traffic in narcotic drugs or psychotropic substances.
 2. The above provisions do not affect the right of the coastal State to take any steps authorized by its laws for the purpose of an arrest or investigation on board a foreign ship passing through the territorial sea after leaving internal waters.
 3. In the cases provided for in paragraphs 1 and 2, the coastal State shall, if the master so requests, notify a diplomatic agent or consular officer of the flag State before taking any steps, and shall facilitate contact between such agent or officer and the ship's crew. In cases of emergency this notification may be communicated while the measures are being taken.
 4. In considering whether or in what manner an arrest should be made, the local authorities shall have due regard to the interests of navigation.
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5. Except as provided in Part XII or with respect to violations of laws and regulations adopted in accordance with Part V, the coastal State may not take any steps on board a foreign ship passing through the territorial sea to arrest any person or to conduct any investigation in connection with any crime committed before the ship entered the territorial sea, if the ship, proceeding from a foreign port, is only passing through the territorial sea without entering internal waters.

Article 28

Civil Jurisdiction in Relation to Foreign Ships

1. The coastal State should not stop or divert a foreign ship passing through the territorial sea for the purpose of exercising civil jurisdiction in relation to a person on board the ship.
2. The coastal State may not levy execution against or arrest the ship for the purpose of any civil proceedings, save only in respect of obligations or liabilities assumed or incurred by the ship itself in the course or for the purpose of its voyage through the waters of the coastal State.
3. Paragraph 2 is without prejudice to the right of the coastal State, in accordance with its laws, to levy execution against or to arrest, for the purpose of any civil proceedings, a foreign ship lying in the territorial sea, or passing through the territorial sea after leaving internal waters.

SUBSECTION C

RULES APPLICABLE TO WARSHIPS AND OTHER GOVERNMENT SHIPS OPERATED FOR NON-COMMERCIAL PURPOSES

Article 29

Definition of Warships

For the purposes of this Convention, "warship" means a ship belonging to the armed forces of a State bearing the external marks distinguishing such ships of its nationality, under the command of an officer duly commissioned by the government of the State and whose name appears in the appropriate service list or its equivalent, and manned by a crew which is under regular armed forces discipline.

Article 30

Non-Compliance by Warships with the Laws and Regulations of the Coastal State

If any warship does not comply with the laws and regulations of the coastal State concerning passage through the territorial sea and disregards any request for compliance therewith which is made to it, the coastal State may require it to leave the territorial sea immediately.

Article 31

Responsibility of the Flag State for Damage Caused by a Warship or Other Government Ship Operated for Non-Commercial Purposes

The flag State shall bear international responsibility for any loss or damage to the coastal State resulting from the non-compliance by a warship or other government ship operated for non-commercial purposes with the laws and regulations of the coastal State concerning passage through the territorial sea or with the provisions of this Convention or other rules of international law.

Article 32

Immunities of Warships and Other Government Ships Operated for Non-Commercial Purposes

With such exceptions as are contained in subsection A and in articles 30 and 31, nothing in this Convention affects the immunities of warships and other government ships operated for non-commercial purposes.

**SECTION 4
CONTIGUOUS ZONE**

**Article 33
Contiguous Zone**

1. In a zone contiguous to its territorial sea, described as the contiguous zone, the coastal State may exercise the control necessary to:
 - (a) prevent infringement of its customs, fiscal, immigration or sanitary laws and regulations within its territory or territorial sea;
 - (b) punish infringement of the above laws and regulations committed within its territory or territorial sea.

2. The contiguous zone may not extend beyond 24 nautical miles from the baselines from which the breadth of the territorial sea is measured.

PART III
STRAITS USED FOR INTERNATIONAL NAVIGATION
SECTION 1
GENERAL PROVISIONS

Article 34

Legal Status of Waters Forming Straits Used for International Navigation

1. The regime of passage through straits used for international navigation established in this Part shall not in other respects affect the legal status of the waters forming such straits or the exercise by the States bordering the straits of their sovereignty or jurisdiction over such waters and their air space, bed and subsoil.
2. The sovereignty or jurisdiction of the States bordering the straits is exercised subject to this Part and to other rules of international law.

Article 35

Scope of this Part

Nothing in this Part affects:

- (a) any areas of internal waters within a strait, except where the establishment of a straight baseline in accordance with the method set forth in article 7 has the effect of enclosing as internal waters areas which had not previously been considered as such;
- (b) the legal status of the waters beyond the territorial seas of States bordering straits as exclusive economic zones or high seas; or
- (c) the legal regime in straits in which passage is regulated in whole or in part by long-standing international conventions in force specifically relating to such straits.

Article 36

High Seas Routes or Routes through Exclusive Economic Zones through Straits Used For International Navigation

This Part does not apply to a strait used for international navigation if there exists through the strait a route through the high seas or through an exclusive economic zone of similar

convenience with respect to navigational and hydrographical characteristics; in such routes, the other relevant Parts of this Convention, including the provisions regarding the freedoms of navigation and overflight, apply.

SECTION 2
TRANSIT PASSAGE

Article 37
Scope of this Section

This section applies to straits which are used for international navigation between one part of the high seas or an exclusive economic zone and another part of the high seas or an exclusive economic zone.

Article 38
Right of Transit Passage

1. In straits referred to in article 37, all ships and aircraft enjoy the right of transit passage, which shall not be impeded; except that, if the strait is formed by an island of a State bordering the strait and its mainland, transit passage shall not apply if there exists seaward of the island a route through the high seas or through an exclusive economic zone of similar convenience with respect to navigational and hydrographical characteristics.
2. Transit passage means the exercise in accordance with this Part of the freedom of navigation and overflight solely for the purpose of continuous and expeditious transit of the strait between one part of the high seas or an exclusive economic zone and another part of the high seas or an exclusive economic zone. However, the requirement of continuous and expeditious transit does not preclude passage through the strait for the purpose of entering, leaving or returning from a State bordering the strait, subject to the conditions of entry to that State.
3. Any activity which is not an exercise of the right of transit passage through a strait remains subject to the other applicable provisions of this Convention.

Article 39
Duties of Ships and Aircraft during Transit Passage

1. Ships and aircraft, while exercising the right of transit passage, shall:
 - (a) proceed without delay through or over the strait;

- (b) refrain from any threat or use of force against the sovereignty, territorial integrity or political independence of States bordering the strait, or in any other manner in violation of the principles of international law embodied in the Charter of the United Nations;
 - (c) refrain from any activities other than those incident to their normal modes of continuous and expeditious transit unless rendered necessary by force majeure or by distress;
 - (d) comply with other relevant provisions of this Part.
2. Ships in transit passage shall:
- (a) comply with generally accepted international regulations, procedures and practices for safety at sea, including the International Regulations for Preventing Collisions at Sea;
 - (b) comply with generally accepted international regulations, procedures and practices for the prevention, reduction and control of pollution from ships.
3. Aircraft in transit passage shall:
- (a) observe the Rules of the Air established by the International Civil Aviation Organization as they apply to civil aircraft; state aircraft will normally comply with such safety measures and will at all times operate with due regard for the safety of navigation;
 - (b) at all times monitor the radio frequency assigned by the competent internationally designated air traffic control authority or the appropriate international distress radio frequency.

Article 40

Research and Survey Activities

During transit passage, foreign ships, including marine scientific research and hydrographic survey ships, may not carry out any research or survey activities without the prior authorization of the States bordering straits.

Article 41

Sea Lanes and Traffic Separation Schemes in Straits Used for International Navigation

1. In conformity with this Part, States bordering straits may designate sea lanes and prescribe traffic separation schemes for navigation in straits where necessary to promote the safe passage of ships.
2. Such States may, when circumstances require, and after giving due publicity thereto, substitute other sea lanes or traffic separation schemes for any sea lanes or traffic separation schemes previously designated or prescribed by them.
3. Such sea lanes and traffic separation schemes shall conform to generally accepted international regulations.
4. Before designating or substituting sea lanes or prescribing or substituting traffic separation schemes, States bordering straits shall refer proposals to the competent international organization with a view to their adoption. The organization may adopt only such sea lanes and traffic separation schemes as may be agreed with the States bordering the straits, after which the States may designate, prescribe or substitute them.
5. In respect of a strait where sea lanes or traffic separation schemes through the waters of two or more States bordering the strait are being proposed, the States concerned shall cooperate in formulating proposals in consultation with the competent international organization.
6. States bordering straits shall clearly indicate all sea lanes and traffic separation schemes designated or prescribed by them on charts to which due publicity shall be given.
7. Ships in transit passage shall respect applicable sea lanes and traffic separation schemes established in accordance with this article.

Article 42

Laws and Regulations of States Bordering Straits Relating to Transit Passage

1. Subject to the provisions of this section, States bordering straits may adopt laws and regulations relating to transit passage through straits, in respect of all or any of the following:
 - (a) the safety of navigation and the regulation of maritime traffic, as provided in article 41;

- (b) the prevention, reduction and control of pollution, by giving effect to applicable international regulations regarding the discharge of oil, oily wastes and other noxious substances in the strait;
 - (c) with respect to fishing vessels, the prevention of fishing, including the stowage of fishing gear;
 - (d) the loading or unloading of any commodity, currency or person in contravention of the customs, fiscal, immigration or sanitary laws and regulations of States bordering straits.
2. Such laws and regulations shall not discriminate in form or in fact among foreign ships or in their application have the practical effect of denying, hampering or impairing the right of transit passage as defined in this section.
 3. States bordering straits shall give due publicity to all such laws and regulations.
 4. Foreign ships exercising the right of transit passage shall comply with such laws and regulations.
 5. The flag State of a ship or the State of registry of an aircraft entitled to sovereign immunity which acts in a manner contrary to such laws and regulations or other provisions of this Part shall bear international responsibility for any loss or damage which results to States bordering straits.

Article 43

Navigational and Safety Aids and Other Improvements and the Prevention, Reduction and Control of Pollution

User States and States bordering a strait should by agreement cooperate:

- (a) in the establishment and maintenance in a strait of necessary navigational and safety aids or other improvements in aid of international navigation; and
- (b) for the prevention, reduction and control of pollution from ships.

Article 44

Duties of States Bordering Straits

States bordering straits shall not hamper transit passage and shall give appropriate publicity to any danger to navigation or overflight within or over the strait of which they have knowledge. There shall be no suspension of transit passage.

SECTION 3

INNOCENT PASSAGE

Article 45

Innocent Passage

1. The regime of innocent passage, in accordance with Part II, section 3, shall apply in straits used for international navigation:
 - (a) excluded from the application of the regime of transit passage under article 38, paragraph 1; or
 - (b) between a part of the high seas or an exclusive economic zone and the territorial sea of a foreign State.
2. There shall be no suspension of innocent passage through such straits.

PART IV

ARCHIPELAGIC STATES

Article 46

Use of Terms

For the purposes of this Convention:

- (a) "archipelagic State" means a State constituted wholly by one or more archipelagos and may include other islands;
- (b) "archipelago" means a group of islands, including parts of islands, interconnecting waters and other natural features which are so closely interrelated that such islands, waters and other natural features form an intrinsic geographical, economic and political entity, or which historically have been regarded as such.

Article 47
Archipelagic Baselines

1. An archipelagic State may draw straight archipelagic baselines joining the outermost points of the outermost islands and drying reefs of the archipelago provided that within such baselines are included the main islands and an area in which the ratio of the area of the water to the area of the land, including atolls, is between 1 to 1 and 9 to 1.
2. The length of such baselines shall not exceed 100 nautical miles, except that up to 3 per cent of the total number of baselines enclosing any archipelago may exceed that length, up to a maximum length of 125 nautical miles.
3. The drawing of such baselines shall not depart to any appreciable extent from the general configuration of the archipelago.
4. Such baselines shall not be drawn to and from low-tide elevations, unless lighthouses or similar installations which are permanently above sea level have been built on them or where a low-tide elevation is situated wholly or partly at a distance not exceeding the breadth of the territorial sea from the nearest island.
5. The system of such baselines shall not be applied by an archipelagic State in such a manner as to cut off from the high seas or the exclusive economic zone the territorial sea of another State.
6. If a part of the archipelagic waters of an archipelagic State lies between two parts of an immediately adjacent neighbouring State, existing rights and all other legitimate interests which the latter State has traditionally exercised in such waters and all rights stipulated by agreement between those States shall continue and be respected.
7. For the purpose of computing the ratio of water to land under paragraph 1, land areas may include waters lying within the fringing reefs of islands and atolls, including that part of a steep-sided oceanic plateau which is enclosed or nearly enclosed by a chain of limestone islands and drying reefs lying on the perimeter of the plateau.
8. The baselines drawn in accordance with this article shall be shown on charts of a scale or scales adequate for ascertaining their position. Alternatively, lists of geographical coordinates of points, specifying the geodetic datum, may be substituted.
9. The archipelagic State shall give due publicity to such charts or lists of geographical coordinates and shall deposit a copy of each such chart or list with the Secretary-General of the United Nations.

Article 48

Measurement of the Breadth of the Territorial Sea, the Contiguous Zone, the Exclusive Economic Zone and the Continental Shelf

The breadth of the territorial sea, the contiguous zone, the exclusive economic zone and the continental shelf shall be measured from archipelagic baselines drawn in accordance with article 47.

Article 49

Legal Status of Archipelagic Waters, of the Air Space over Archipelagic Waters and of Their Bed and Subsoil

1. The sovereignty of an archipelagic State extends to the waters enclosed by the archipelagic baselines drawn in accordance with article 47, described as archipelagic waters, regardless of their depth or distance from the coast.
2. This sovereignty extends to the air space over the archipelagic waters, as well as to their bed and subsoil, and the resources contained therein.
3. This sovereignty is exercised subject to this Part.
4. The regime of archipelagic sea lanes passage established in this Part shall not in other respects affect the status of the archipelagic waters, including the sea lanes, or the exercise by the archipelagic State of its sovereignty over such waters and their air space, bed and subsoil, and the resources contained therein.

Article 50

Delimitation of Internal Waters

Within its archipelagic waters, the archipelagic State may draw closing lines for the delimitation of internal waters, in accordance with articles 9, 10 and 11.

Article 51

Existing Agreements, Traditional Fishing Rights and Existing Submarine Cables

1. Without prejudice to article 49, an archipelagic State shall respect existing agreements with other States and shall recognize traditional fishing rights and other legitimate activities of the immediately adjacent neighbouring States in certain areas falling within archipelagic waters. The terms and conditions for the exercise of such rights and activities, including the nature, the extent and the areas to which they apply, shall, at the

request of any of the States concerned, be regulated by bilateral agreements between them. Such rights shall not be transferred to or shared with third States or their nationals.

2. An archipelagic State shall respect existing submarine cables laid by other States and passing through its waters without making a landfall. An archipelagic State shall permit the maintenance and replacement of such cables upon receiving due notice of their location and the intention to repair or replace them.

Article 52

Right of Innocent Passage

1. Subject to article 53 and without prejudice to article 50, ships of all States enjoy the right of innocent passage through archipelagic waters, in accordance with Part II, section 3.
2. The archipelagic State may, without discrimination in form or in fact among foreign ships, suspend temporarily in specified areas of its archipelagic waters the innocent passage of foreign ships if such suspension is essential for the protection of its security. Such suspension shall take effect only after having been duly published.

Article 53

Right of Archipelagic Sea Lanes Passage

1. An archipelagic State may designate sea lanes and air routes thereabove, suitable for the continuous and expeditious passage of foreign ships and aircraft through or over its archipelagic waters and the adjacent territorial sea.
2. All ships and aircraft enjoy the right of archipelagic sea lanes passage in such sea lanes and air routes.
3. Archipelagic sea lanes passage means the exercise in accordance with this Convention of the rights of navigation and overflight in the normal mode solely for the purpose of continuous, expeditious and unobstructed transit between one part of the high seas or an exclusive economic zone and another part of the high seas or an exclusive economic zone.
4. Such sea lanes and air routes shall traverse the archipelagic waters and the adjacent territorial sea and shall include all normal passage routes used as routes for international navigation or overflight through or over archipelagic waters and, within such routes, so far as ships are concerned, all normal navigational channels, provided that duplication of routes of similar convenience between the same entry and exit points shall not be necessary.

5. Such sea lanes and air routes shall be defined by a series of continuous axis lines from the entry points of passage routes to the exit points. Ships and aircraft in archipelagic sea lanes passage shall not deviate more than 25 nautical miles to either side of such axis lines during passage, provided that such ships and aircraft shall not navigate closer to the coasts than 10 per cent of the distance between the nearest points on islands bordering the sea lane.
6. An archipelagic State which designates sea lanes under this article may also prescribe traffic separation schemes for the safe passage of ships through narrow channels in such sea lanes.
7. An archipelagic State may, when circumstances require, after giving due publicity thereto, substitute other sea lanes or traffic separation schemes for any sea lanes or traffic separation schemes previously designated or prescribed by it.
8. Such sea lanes and traffic separation schemes shall conform to generally accepted international regulations.
9. In designating or substituting sea lanes or prescribing or substituting traffic separation schemes, an archipelagic State shall refer proposals to the competent international organization with a view to their adoption. The organization may adopt only such sea lanes and traffic separation schemes as may be agreed with the archipelagic State, after which the archipelagic State may designate, prescribe or substitute them.
10. The archipelagic State shall clearly indicate the axis of the sea lanes and the traffic separation schemes designated or prescribed by it on charts to which due publicity shall be given.
11. Ships in archipelagic sea lanes passage shall respect applicable sea lanes and traffic separation schemes established in accordance with this article.
12. If an archipelagic State does not designate sea lanes or air routes, the right of archipelagic sea lanes passage may be exercised through the routes normally used for international navigation.

Article 54

Duties of Ships and Aircraft during Their Passage, Research and Survey Activities, Duties of the Archipelagic State and Laws and Regulations of the Archipelagic State Relating to Archipelagic Sea Lanes Passage

Articles 39, 40, 42 and 44 apply *mutatis mutandis* to archipelagic sea lanes passage.

PART V
EXCLUSIVE ECONOMIC ZONE

Article 55
Specific Legal Regime of the Exclusive Economic Zone

The exclusive economic zone is an area beyond and adjacent to the territorial sea, subject to the specific legal regime established in this Part, under which the rights and jurisdiction of the coastal State and the rights and freedoms of other States are governed by the relevant provisions of this Convention.

Article 56 Rights
Jurisdiction and Duties of the Coastal State in the Exclusive Economic Zone

1. In the exclusive economic zone, the coastal State has:
 - (a) sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds;
 - (b) jurisdiction as provided for in the relevant provisions of this Convention with regard to:
 - (i) the establishment and use of artificial islands, installations and structures;
 - (ii) marine scientific research;
 - (iii) the protection and preservation of the marine environment;
 - (c) other rights and duties provided for in this Convention.
2. In exercising its rights and performing its duties under this Convention in the exclusive economic zone, the coastal State shall have due regard to the rights and duties of other States and shall act in a manner compatible with the provisions of this Convention.
3. The rights set out in this article with respect to the seabed and subsoil shall be exercised in accordance with Part VI.

Article 57

Breadth of the Exclusive Economic Zone

The exclusive economic zone shall not extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured.

Article 58

Rights and Duties of Other States in the Exclusive Economic Zone

1. In the exclusive economic zone, all States, whether coastal or land-locked, enjoy, subject to the relevant provisions of this Convention, the freedoms referred to in article 87 of navigation and overflight and of the laying of submarine cables and pipelines, and other internationally lawful uses of the sea related to these freedoms, such as those associated with the operation of ships, aircraft and submarine cables and pipelines, and compatible with the other provisions of this Convention.
2. Articles 88 to 115 and other pertinent rules of international law apply to the exclusive economic zone in so far as they are not incompatible with this Part.
3. In exercising their rights and performing their duties under this Convention in the exclusive economic zone, States shall have due regard to the rights and duties of the coastal State and shall comply with the laws and regulations adopted by the coastal State in accordance with the provisions of this Convention and other rules of international law in so far as they are not incompatible with this Part.

Article 59

Basis for the Resolution of Conflicts Regarding the Attribution of Rights and Jurisdiction in the Exclusive Economic Zone

In cases where this Convention does not attribute rights or jurisdiction to the coastal State or to other States within the exclusive economic zone, and a conflict arises between the interests of the coastal State and any other State or States, the conflict should be resolved on the basis of equity and in the light of all the relevant circumstances, taking into account the respective importance of the interests involved to the parties as well as to the international community as a whole.

Article 60

Artificial Islands, Installations and Structures in the Exclusive Economic Zone

1. In the exclusive economic zone, the coastal State shall have the exclusive right to construct and to authorize and regulate the construction, operation and use of:

- (a) artificial islands;
 - (b) installations and structures for the purposes provided for in article 56 and other economic purposes;
 - (c) installations and structures which may interfere with the exercise of the rights of the coastal State in the zone.
2. The coastal State shall have exclusive jurisdiction over such artificial islands, installations and structures, including jurisdiction with regard to customs, fiscal, health, safety and immigration laws and regulations.
 3. Due notice must be given of the construction of such artificial islands, installations or structures, and permanent means for giving warning of their presence must be maintained. Any installations or structures which are abandoned or disused shall be removed to ensure safety of navigation, taking into account any generally accepted international standards established in this regard by the competent international organization. Such removal shall also have due regard to fishing, the protection of the marine environment and the rights and duties of other States. Appropriate publicity shall be given to the depth, position and dimensions of any installations or structures not entirely removed.
 4. The coastal State may, where necessary, establish reasonable safety zones around such artificial islands, installations and structures in which it may take appropriate measures to ensure the safety both of navigation and of the artificial islands, installations and structures.
 5. The breadth of the safety zones shall be determined by the coastal State, taking into account applicable international standards. Such zones shall be designed to ensure that they are reasonably related to the nature and function of the artificial islands, installations or structures, and shall not exceed a distance of 500 metres around them, measured from each point of their outer edge, except as authorized by generally accepted international standards or as recommended by the competent international organization. Due notice shall be given of the extent of safety zones.
 6. All ships must respect these safety zones and shall comply with generally accepted international standards regarding navigation in the vicinity of artificial islands, installations, structures and safety zones.
 7. Artificial islands, installations and structures and the safety zones around them may not be established where interference may be caused to the use of recognized sea lanes essential to international navigation.

8. Artificial islands, installations and structures do not possess the status of islands. They have no territorial sea of their own, and their presence does not affect the delimitation of the territorial sea, the exclusive economic zone or the continental shelf.

Article 61

Conservation of the Living Resources

1. The coastal State shall determine the allowable catch of the living resources in its exclusive economic zone.
2. The coastal State, taking into account the best scientific evidence available to it, shall ensure through proper conservation and management measures that the maintenance of the living resources in the exclusive economic zone is not endangered by over-exploitation. As appropriate, the coastal State and competent international organizations, whether subregional, regional or global, shall cooperate to this end.
3. Such measures shall also be designed to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield, as qualified by relevant environmental and economic factors, including the economic needs of coastal fishing communities and the special requirements of developing States, and taking into account fishing patterns, the interdependence of stocks and any generally recommended international minimum standards, whether subregional, regional or global.
4. In taking such measures the coastal State shall take into consideration the effects on species associated with or dependent upon harvested species with a view to maintaining or restoring populations of such associated or dependent species above levels at which their reproduction may become seriously threatened.
5. Available scientific information, catch and fishing effort statistics, and other data relevant to the conservation of fish stocks shall be contributed and exchanged on a regular basis through competent international organizations, whether subregional, regional or global, where appropriate and with participation by all States concerned, including States whose nationals are allowed to fish in the exclusive economic zone.

Article 62

Utilization of the Living Resources

1. The coastal State shall promote the objective of optimum utilization of the living resources in the exclusive economic zone without prejudice to article 61.
 2. The coastal State shall determine its capacity to harvest the living resources of the exclusive economic zone. Where the coastal State does not have the capacity to harvest
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the entire allowable catch, it shall, through agreements or other arrangements and pursuant to the terms, conditions, laws and regulations referred to in paragraph 4, give other States access to the surplus of the allowable catch, having particular regard to the provisions of articles 69 and 70, especially in relation to the developing States mentioned therein.

3. In giving access to other States to its exclusive economic zone under this article, the coastal State shall take into account all relevant factors, including, *inter alia*, the significance of the living resources of the area to the economy of the coastal State concerned and its other national interests, the provisions of articles 69 and 70, the requirements of developing States in the subregion or region in harvesting part of the surplus and the need to minimize economic dislocation in States whose nationals have habitually fished in the zone or which have made substantial efforts in research and identification of stocks.
4. Nationals of other States fishing in the exclusive economic zone shall comply with the conservation measures and with the other terms and conditions established in the laws and regulations of the coastal State. These laws and regulations shall be consistent with this Convention and may relate, *inter alia*, to the following:
 - (a) licensing of fishermen, fishing vessels and equipment, including payment of fees and other forms of remuneration, which, in the case of developing coastal States, may consist of adequate compensation in the field of financing, equipment and technology relating to the fishing industry;
 - (b) determining the species which may be caught, and fixing quotas of catch, whether in relation to particular stocks or groups of stocks or catch per vessel over a period of time or to the catch by nationals of any State during a specified period;
 - (c) regulating seasons and areas of fishing, the types, sizes and amount of gear, and the types, sizes and number of fishing vessels that may be used;
 - (d) fixing the age and size of fish and other species that may be caught;
 - (e) specifying information required of fishing vessels, including catch and effort statistics and vessel position reports;
 - (f) requiring, under the authorization and control of the coastal State, the conduct of specified fisheries research programmes and regulating the conduct of such research, including the sampling of catches, disposition of samples and reporting of associated scientific data;

- (g) the placing of observers or trainees on board such vessels by the coastal State;
 - (h) the landing of all or any part of the catch by such vessels in the ports of the coastal State;
 - (i) terms and conditions relating to joint ventures or other cooperative arrangements;
 - (j) requirements for the training of personnel and the transfer of fisheries technology, including enhancement of the coastal State's capability of undertaking fisheries research;
 - (k) enforcement procedures.
5. Coastal States shall give due notice of conservation and management laws and regulations.

Article 63

Stocks Occurring Within the Exclusive Economic Zones of Two or More Coastal States or Both Within the Exclusive Economic Zone and in an Area Beyond and Adjacent to It

1. Where the same stock or stocks of associated species occur within the exclusive economic zones of two or more coastal States, these States shall seek, either directly or through appropriate subregional or regional organizations, to agree upon the measures necessary to coordinate and ensure the conservation and development of such stocks without prejudice to the other provisions of this Part.
2. Where the same stock or stocks of associated species occur both within the exclusive economic zone and in an area beyond and adjacent to the zone, the coastal State and the States fishing for such stocks in the adjacent area shall seek, either directly or through appropriate subregional or regional organizations, to agree upon the measures necessary for the conservation of these stocks in the adjacent area.

Article 64

Highly Migratory Species

1. The coastal State and other States whose nationals fish in the region for the highly migratory species listed in Annex I shall cooperate directly or through appropriate international organizations with a view to ensuring conservation and promoting the objective of optimum utilization of such species throughout the region, both within and beyond the exclusive economic zone. In regions for which no appropriate international organization exists, the coastal State and other States whose nationals harvest these
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species in the region shall cooperate to establish such an organization and participate in its work.

2. The provisions of paragraph 1 apply in addition to the other provisions of this Part.

Article 65

Marine Mammals

Nothing in this Part restricts the right of a coastal State or the competence of an international organization, as appropriate, to prohibit, limit or regulate the exploitation of marine mammals more strictly than provided for in this Part. States shall cooperate with a view to the conservation of marine mammals and in the case of cetaceans shall in particular work through the appropriate international organizations for their conservation, management and study.

Article 66

Anadromous Stocks

1. States in whose rivers anadromous stocks originate shall have the primary interest in and responsibility for such stocks.
 2. The State of origin of anadromous stocks shall ensure their conservation by the establishment of appropriate regulatory measures for fishing in all waters landward of the outer limits of its exclusive economic zone and for fishing provided for in paragraph 3(b). The State of origin may, after consultations with the other States referred to in paragraphs 3 and 4 fishing these stocks, establish total allowable catches for stocks originating in its rivers.
 3.
 - (a) Fisheries for anadromous stocks shall be conducted only in waters landward of the outer limits of exclusive economic zones, except in cases where this provision would result in economic dislocation for a State other than the State of origin. With respect to such fishing beyond the outer limits of the exclusive economic zone, States concerned shall maintain consultations with a view to achieving agreement on terms and conditions of such fishing giving due regard to the conservation requirements and the needs of the State of origin in respect of these stocks.
 - (b) The State of origin shall cooperate in minimizing economic dislocation in such other States fishing these stocks, taking into account the normal catch and the mode of operations of such States, and all the areas in which such fishing has occurred.
 - (c) States referred to in subparagraph (b), participating by agreement with the State of origin in measures to renew anadromous stocks, particularly by expenditures for that
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purpose, shall be given special consideration by the State of origin in the harvesting of stocks originating in its rivers.

- (d) Enforcement of regulations regarding anadromous stocks beyond the exclusive economic zone shall be by agreement between the State of origin and the other States concerned.
4. In cases where anadromous stocks migrate into or through the waters landward of the outer limits of the exclusive economic zone of a State other than the State of origin, such State shall cooperate with the State of origin with regard to the conservation and management of such stocks.
5. The State of origin of anadromous stocks and other States fishing these stocks shall make arrangements for the implementation of the provisions of this article, where appropriate, through regional organizations.

Article 67

Catadromous Species

1. A coastal State in whose waters catadromous species spend the greater part of their life cycle shall have responsibility for the management of these species and shall ensure the ingress and egress of migrating fish.
2. Harvesting of catadromous species shall be conducted only in waters landward of the outer limits of exclusive economic zones. When conducted in exclusive economic zones, harvesting shall be subject to this article and the other provisions of this Convention concerning fishing in these zones.
3. In cases where catadromous fish migrate through the exclusive economic zone of another State, whether as juvenile or maturing fish, the management, including harvesting, of such fish shall be regulated by agreement between the State mentioned in paragraph 1 and the other State concerned. Such agreement shall ensure the rational management of the species and take into account the responsibilities of the State mentioned in paragraph 1 for the maintenance of these species.

Article 68

Sedentary Species

This Part does not apply to sedentary species as defined in article 77, paragraph 4.

Article 69

Right of Land-Locked States

1. Land-locked States shall have the right to participate, on an equitable basis, in the exploitation of an appropriate part of the surplus of the living resources of the exclusive economic zones of coastal States of the same subregion or region, taking into account the relevant economic and geographical circumstances of all the States concerned and in conformity with the provisions of this article and of articles 61 and 62.
2. The terms and modalities of such participation shall be established by the States concerned through bilateral, subregional or regional agreements taking into account, inter alia:
 - (a) the need to avoid effects detrimental to fishing communities or fishing industries of the coastal State;
 - (b) the extent to which the land-locked State, in accordance with the provisions of this article, is participating or is entitled to participate under existing bilateral, subregional or regional agreements in the exploitation of living resources of the exclusive economic zones of other coastal States;
 - (c) the extent to which other land-locked States and geographically disadvantaged States are participating in the exploitation of the living resources of the exclusive economic zone of the coastal State and the consequent need to avoid a particular burden for any single coastal State or a part of it;
 - (d) the nutritional needs of the populations of the respective States.
3. When the harvesting capacity of a coastal State approaches a point which would enable it to harvest the entire allowable catch of the living resources in its exclusive economic zone, the coastal State and other States concerned shall cooperate in the establishment of equitable arrangements on a bilateral, subregional or regional basis to allow for participation of developing land-locked States of the same subregion or region in the exploitation of the living resources of the exclusive economic zones of coastal States of the subregion or region, as may be appropriate in the circumstances and on terms satisfactory to all parties. In the implementation of this provision the factors mentioned in paragraph 2 shall also be taken into account.
4. Developed land-locked States shall, under the provisions of this article, be entitled to participate in the exploitation of living resources only in the exclusive economic zones of developed coastal States of the same subregion or region having regard to the extent to which the coastal State, in giving access to other States to the living resources of its exclusive economic zone, has taken into account the need to minimize detrimental effects

on fishing communities and economic dislocation in States whose nationals have habitually fished in the zone.

5. The above provisions are without prejudice to arrangements agreed upon in subregions or regions where the coastal States may grant to land-locked States of the same subregion or region equal or preferential rights for the exploitation of the living resources in the exclusive economic zones.

Article 70

Right of Geographically Disadvantaged States

1. Geographically disadvantaged States shall have the right to participate, on an equitable basis, in the exploitation of an appropriate part of the surplus of the living resources of the exclusive economic zones of coastal States of the same subregion or region, taking into account the relevant economic and geographical circumstances of all the States concerned and in conformity with the provisions of this article and of articles 61 and 62.
 2. For the purposes of this Part, "geographically disadvantaged States" means coastal States, including States bordering enclosed or semi-enclosed seas, whose geographical situation makes them dependent upon the exploitation of the living resources of the exclusive economic zones of other States in the subregion or region for adequate supplies of fish for the nutritional purposes of their populations or parts thereof, and coastal States which can claim no exclusive economic zones of their own.
 3. The terms and modalities of such participation shall be established by the States concerned through bilateral, subregional or regional agreements taking into account, *inter alia*:
 - (a) the need to avoid effects detrimental to fishing communities or fishing industries of the coastal State;
 - (b) the extent to which the geographically disadvantaged State, in accordance with the provisions of this article, is participating or is entitled to participate under existing bilateral, subregional or regional agreements in the exploitation of living resources of the exclusive economic zones of other coastal States;
 - (c) the extent to which other geographically disadvantaged States and land-locked States are participating in the exploitation of the living resources of the exclusive economic zone of the coastal State and the consequent need to avoid a particular burden for any single coastal State or a part of it;
 - (d) the nutritional needs of the populations of the respective States.
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4. When the harvesting capacity of a coastal State approaches a point which would enable it to harvest the entire allowable catch of the living resources in its exclusive economic zone, the coastal State and other States concerned shall cooperate in the establishment of equitable arrangements on a bilateral, subregional or regional basis to allow for participation of developing geographically disadvantaged States of the same subregion or region in the exploitation of the living resources of the exclusive economic zones of coastal States of the subregion or region, as may be appropriate in the circumstances and on terms satisfactory to all parties. In the implementation of this provision the factors mentioned in paragraph 3 shall also be taken into account.
5. Developed geographically disadvantaged States shall, under the provisions of this article, be entitled to participate in the exploitation of living resources only in the exclusive economic zones of developed coastal States of the same subregion or region having regard to the extent to which the coastal State, in giving access to other States to the living resources of its exclusive economic zone, has taken into account the need to minimize detrimental effects on fishing communities and economic dislocation in States whose nationals have habitually fished in the zone.
6. The above provisions are without prejudice to arrangements agreed upon in subregions or regions where the coastal States may grant to geographically disadvantaged States of the same subregion or region equal or preferential rights for the exploitation of the living resources in the exclusive economic zones.

Article 71

Non-applicability of Articles 69 and 70

The provisions of articles 69 and 70 do not apply in the case of a coastal State whose economy is overwhelmingly dependent on the exploitation of the living resources of its exclusive economic zone.

Article 72

Restrictions on Transfer of Rights

1. Rights provided under articles 69 and 70 to exploit living resources shall not be directly or indirectly transferred to third States or their nationals by lease or licence, by establishing joint ventures or in any other manner which has the effect of such transfer unless otherwise agreed by the States concerned.
2. The foregoing provision does not preclude the States concerned from obtaining technical or financial assistance from third States or international organizations in order to facilitate the exercise of the rights pursuant to articles 69 and 70, provided that it does not have the effect referred to in paragraph 1.

Article 73

Enforcement of Laws and Regulations of the Coastal State

1. The coastal State may, in the exercise of its sovereign rights to explore, exploit, conserve and manage the living resources in the exclusive economic zone, take such measures, including boarding, inspection, arrest and judicial proceedings, as may be necessary to ensure compliance with the laws and regulations adopted by it in conformity with this Convention.
2. Arrested vessels and their crews shall be promptly released upon the posting of reasonable bond or other security.
3. Coastal State penalties for violations of fisheries laws and regulations in the exclusive economic zone may not include imprisonment, in the absence of agreements to the contrary by the States concerned, or any other form of corporal punishment.
4. In cases of arrest or detention of foreign vessels the coastal State shall promptly notify the flag State, through appropriate channels, of the action taken and of any penalties subsequently imposed.

Article 74

Delimitation of the Exclusive Economic Zone between States with Opposite or Adjacent Coasts

1. The delimitation of the exclusive economic zone between States with opposite or adjacent coasts shall be effected by agreement on the basis of international law, as referred to in Article 38 of the Statute of the International Court of Justice, in order to achieve an equitable solution.
 2. If no agreement can be reached within a reasonable period of time, the States concerned shall resort to the procedures provided for in Part XV.
 3. Pending agreement as provided for in paragraph 1, the States concerned, in a spirit of understanding and cooperation, shall make every effort to enter into provisional arrangements of a practical nature and, during this transitional period, not to jeopardize or hamper the reaching of the final agreement. Such arrangements shall be without prejudice to the final delimitation.
 4. Where there is an agreement in force between the States concerned, questions relating to the delimitation of the exclusive economic zone shall be determined in accordance with the provisions of that agreement.
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Article 75

Charts and Lists of Geographical Coordinates

1. Subject to this Part, the outer limit lines of the exclusive economic zone and the lines of delimitation drawn in accordance with article 74 shall be shown on charts of a scale or scales adequate for ascertaining their position. Where appropriate, lists of geographical coordinates of points, specifying the geodetic datum, may be substituted for such outer limit lines or lines of delimitation.
2. The coastal State shall give due publicity to such charts or lists of geographical coordinates and shall deposit a copy of each such chart or list with the Secretary-General of the United Nations.

PART VI

CONTINENTAL SHELF

Article 76

Definition of the Continental Shelf

1. The continental shelf of a coastal State comprises the seabed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance.
2. The continental shelf of a coastal State shall not extend beyond the limits provided for in paragraphs 4 to 6.
3. The continental margin comprises the submerged prolongation of the land mass of the coastal State, and consists of the seabed and subsoil of the shelf, the slope and the rise. It does not include the deep ocean floor with its oceanic ridges or the subsoil thereof.
4.
 - (a) For the purposes of this Convention, the coastal State shall establish the outer edge of the continental margin wherever the margin extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, by either:
 - (i) a line delineated in accordance with paragraph 7 by reference to the outermost fixed points at each of which the thickness of sedimentary rocks is at least 1 per cent of the shortest distance from such point to the foot of the continental slope; or

- (ii) a line delineated in accordance with paragraph 7 by reference to fixed points not more than 60 nautical miles from the foot of the continental slope.
- (b) In the absence of evidence to the contrary, the foot of the continental slope shall be determined as the point of maximum change in the gradient at its base.
5. The fixed points comprising the line of the outer limits of the continental shelf on the seabed, drawn in accordance with paragraph 4 (a)(i) and (ii), either shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured or shall not exceed 100 nautical miles from the 2,500 metre isobath, which is a line connecting the depth of 2,500 metres.
6. Notwithstanding the provisions of paragraph 5, on submarine ridges, the outer limit of the continental shelf shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured. This paragraph does not apply to submarine elevations that are natural components of the continental margin, such as its plateaux, rises, caps, banks and spurs.
7. The coastal State shall delineate the outer limits of its continental shelf, where that shelf extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, by straight lines not exceeding 60 nautical miles in length, connecting fixed points, defined by coordinates of latitude and longitude.
8. Information on the limits of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured shall be submitted by the coastal State to the Commission on the Limits of the Continental Shelf set up under Annex II on the basis of equitable geographical representation. The Commission shall make recommendations to coastal States on matters related to the establishment of the outer limits of their continental shelf. The limits of the shelf established by a coastal State on the basis of these recommendations shall be final and binding.
9. The coastal State shall deposit with the Secretary-General of the United Nations charts and relevant information, including geodetic data, permanently describing the outer limits of its continental shelf. The Secretary-General shall give due publicity thereto.
10. The provisions of this article are without prejudice to the question of delimitation of the continental shelf between States with opposite or adjacent coasts.

Article 77

Rights of the Coastal State over the Continental Shelf

1. The coastal State exercises over the continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources.
2. The rights referred to in paragraph 1 are exclusive in the sense that if the coastal State does not explore the continental shelf or exploit its natural resources, no one may undertake these activities without the express consent of the coastal State.
3. The rights of the coastal State over the continental shelf do not depend on occupation, effective or notional, or on any express proclamation.
4. The natural resources referred to in this Part consist of the mineral and other non-living resources of the seabed and subsoil together with living organisms belonging to sedentary species, that is to say, organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil.

Article 78

Legal Status of the Superjacent Waters and Air Space and the Rights and Freedoms of other States

1. The rights of the coastal State over the continental shelf do not affect the legal status of the superjacent waters or of the air space above those waters.
2. The exercise of the rights of the coastal State over the continental shelf must not infringe or result in any unjustifiable interference with navigation and other rights and freedoms of other States as provided for in this Convention.

Article 79

Submarine Cables and Pipelines on the Continental Shelf

1. All States are entitled to lay submarine cables and pipelines on the continental shelf, in accordance with the provisions of this article.
2. Subject to its right to take reasonable measures for the exploration of the continental shelf, the exploitation of its natural resources and the prevention, reduction and control of pollution from pipelines, the coastal State may not impede the laying or maintenance of such cables or pipelines.

3. The delineation of the course for the laying of such pipelines on the continental shelf is subject to the consent of the coastal State.
4. Nothing in this Part affects the right of the coastal State to establish conditions for cables or pipelines entering its territory or territorial sea, or its jurisdiction over cables and pipelines constructed or used in connection with the exploration of its continental shelf or exploitation of its resources or the operations of artificial islands, installations and structures under its jurisdiction.
5. When laying submarine cables or pipelines, States shall have due regard to cables or pipelines already in position. In particular, possibilities of repairing existing cables or pipelines shall not be prejudiced.

Article 80

Artificial Islands, Installations and Structures on the Continental Shelf

Article 60 applies *mutatis mutandis* to artificial islands, installations and structures on the continental shelf.

Article 81

Drilling on the continental shelf

The coastal State shall have the exclusive right to authorize and regulate drilling on the continental shelf for all purposes.

Article 82

Payments and Contributions with Respect to the Exploitation of the Continental Shelf beyond 200 Nautical Miles

1. The coastal State shall make payments or contributions in kind in respect of the exploitation of the non-living resources of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured.
2. The payments and contributions shall be made annually with respect to all production at a site after the first five years of production at that site. For the sixth year, the rate of payment or contribution shall be 1 per cent of the value or volume of production at the site. The rate shall increase by 1 per cent for each subsequent year until the twelfth year and shall remain at 7 per cent thereafter. Production does not include resources used in connection with exploitation.

3. A developing State which is a net importer of a mineral resource produced from its continental shelf is exempt from making such payments or contributions in respect of that mineral resource.
4. The payments or contributions shall be made through the Authority, which shall distribute them to States Parties to this Convention, on the basis of equitable sharing criteria, taking into account the interests and needs of developing States, particularly the least developed and the land-locked among them.

Article 83

Delimitation of the Continental Shelf between States with Opposite or Adjacent Coasts

1. The delimitation of the continental shelf between States with opposite or adjacent coasts shall be effected by agreement on the basis of international law, as referred to in Article 38 of the Statute of the International Court of Justice, in order to achieve an equitable solution.
2. If no agreement can be reached within a reasonable period of time, the States concerned shall resort to the procedures provided for in Part XV.
3. Pending agreement as provided for in paragraph 1, the States concerned, in a spirit of understanding and cooperation, shall make every effort to enter into provisional arrangements of a practical nature and, during this transitional period, not to jeopardize or hamper the reaching of the final agreement. Such arrangements shall be without prejudice to the final delimitation.
4. Where there is an agreement in force between the States concerned, questions relating to the delimitation of the continental shelf shall be determined in accordance with the provisions of that agreement.

Article 84

Charts and Lists of Geographical Coordinates

1. Subject to this Part, the outer limit lines of the continental shelf and the lines of delimitation drawn in accordance with article 83 shall be shown on charts of a scale or scales adequate for ascertaining their position. Where appropriate, lists of geographical coordinates of points, specifying the geodetic datum, may be substituted for such outer limit lines or lines of delimitation.
 2. The coastal State shall give due publicity to such charts or lists of geographical coordinates and shall deposit a copy of each such chart or list with the Secretary-General
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of the United Nations and, in the case of those showing the outer limit lines of the continental shelf, with the Secretary-General of the Authority.

Article 85
Tunnelling

This Part does not prejudice the right of the coastal State to exploit the subsoil by means of tunnelling, irrespective of the depth of water above the subsoil.

PART VII
HIGH SEAS

SECTION 1
GENERAL PROVISIONS

Article 86
Application of the Provisions of this Part

The provisions of this Part apply to all parts of the sea that are not included in the exclusive economic zone, in the territorial sea or in the internal waters of a State, or in the archipelagic waters of an archipelagic State. This article does not entail any abridgement of the freedoms enjoyed by all States in the exclusive economic zone in accordance with article 58.

Article 87
Freedom of the High Seas

1. The high seas are open to all States, whether coastal or land-locked. Freedom of the high seas is exercised under the conditions laid down by this Convention and by other rules of international law. It comprises, *inter alia*, both for coastal and land-locked States:
 - (a) freedom of navigation;
 - (b) freedom of overflight;
 - (c) freedom to lay submarine cables and pipelines, subject to Part VI;
 - (d) freedom to construct artificial islands and other installations permitted under international law, subject to Part VI;
 - (e) freedom of fishing, subject to the conditions laid down in section 2;

- (f) freedom of scientific research, subject to Parts VI and XIII.
2. These freedoms shall be exercised by all States with due regard for the interests of other States in their exercise of the freedom of the high seas, and also with due regard for the rights under this Convention with respect to activities in the Area.

Article 88
Reservation of the High Seas for Peaceful Purposes

The high seas shall be reserved for peaceful purposes.

Article 89
Invalidity of Claims of Sovereignty over the High Seas

No State may validly purport to subject any part of the high seas to its sovereignty.

Article 90
Right of Navigation

Every State, whether coastal or land-locked, has the right to sail ships flying its flag on the high seas.

Article 91
Nationality of Ships

1. Every State shall fix the conditions for the grant of its nationality to ships, for the registration of ships in its territory, and for the right to fly its flag. Ships have the nationality of the State whose flag they are entitled to fly. There must exist a genuine link between the State and the ship.
2. Every State shall issue to ships to which it has granted the right to fly its flag documents to that effect.

Article 92
Status of Ships

1. Ships shall sail under the flag of one State only and, save in exceptional cases expressly provided for in international treaties or in this Convention, shall be subject to its exclusive jurisdiction on the high seas. A ship may not change its flag during a voyage or while in a port of call, save in the case of a real transfer of ownership or change of registry.

2. A ship which sails under the flags of two or more States, using them according to convenience, may not claim any of the nationalities in question with respect to any other State, and may be assimilated to a ship without nationality.

Article 93

Ships Flying the Flag of the United Nations, its Specialized Agencies and the International Atomic Energy Agency

The preceding articles do not prejudice the question of ships employed on the official service of the United Nations, its specialized agencies or the International Atomic Energy Agency, flying the flag of the organization.

Article 94

Duties of the Flag State

1. Every State shall effectively exercise its jurisdiction and control in administrative, technical and social matters over ships flying its flag.
 2. In particular every State shall:
 - (a) maintain a register of ships containing the names and particulars of ships flying its flag, except those which are excluded from generally accepted international regulations on account of their small size; and
 - (b) assume jurisdiction under its internal law over each ship flying its flag and its master, officers and crew in respect of administrative, technical and social matters concerning the ship.
 3. Every State shall take such measures for ships flying its flag as are necessary to ensure safety at sea with regard, *inter alia*, to:
 - (a) the construction, equipment and seaworthiness of ships;
 - (b) the manning of ships, labour conditions and the training of crews, taking into account the applicable international instruments;
 - (c) the use of signals, the maintenance of communications and the prevention of collisions.
 4. Such measures shall include those necessary to ensure:
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- (a) that each ship, before registration and thereafter at appropriate intervals, is surveyed by a qualified surveyor of ships, and has on board such charts, nautical publications and navigational equipment and instruments as are appropriate for the safe navigation of the ship;
 - (b) that each ship is in the charge of a master and officers who possess appropriate qualifications, in particular in seamanship, navigation, communications and marine engineering, and that the crew is appropriate in qualification and numbers for the type, size, machinery and equipment of the ship;
 - (c) that the master, officers and, to the extent appropriate, the crew are fully conversant with and required to observe the applicable international regulations concerning the safety of life at sea, the prevention of collisions, the prevention, reduction and control of marine pollution, and the maintenance of communications by radio.
5. In taking the measures called for in paragraphs 3 and 4 each State is required to conform to generally accepted international regulations, procedures and practices and to take any steps which may be necessary to secure their observance.
 6. A State which has clear grounds to believe that proper jurisdiction and control with respect to a ship have not been exercised may report the facts to the flag State. Upon receiving such a report, the flag State shall investigate the matter and, if appropriate, take any action necessary to remedy the situation.
 7. Each State shall cause an inquiry to be held by or before a suitably qualified person or persons into every marine casualty or incident of navigation on the high seas involving a ship flying its flag and causing loss of life or serious injury to nationals of another State or serious damage to ships or installations of another State or to the marine environment. The flag State and the other State shall cooperate in the conduct of any inquiry held by that other State into any such marine casualty or incident of navigation.

Article 95

Immunity of Warships on the High Seas

Warships on the high seas have complete immunity from the jurisdiction of any State other than the flag State.

Article 96

Immunity of Ships Used only on Government Non-Commercial Service

Ships owned or operated by a State and used only on government non-commercial service shall, on the high seas, have complete immunity from the jurisdiction of any State other than the flag State.

Article 97

Penal Jurisdiction in Matters of Collision or any Other Incident of Navigation

1. In the event of a collision or any other incident of navigation concerning a ship on the high seas, involving the penal or disciplinary responsibility of the master or of any other person in the service of the ship, no penal or disciplinary proceedings may be instituted against such person except before the judicial or administrative authorities either of the flag State or of the State of which such person is a national.
2. In disciplinary matters, the State which has issued a master's certificate or a certificate of competence or licence shall alone be competent, after due legal process, to pronounce the withdrawal of such certificates, even if the holder is not a national of the State which issued them.
3. No arrest or detention of the ship, even as a measure of investigation, shall be ordered by any authorities other than those of the flag State.

Article 98

Duty to Render Assistance

1. Every State shall require the master of a ship flying its flag, in so far as he can do so without serious danger to the ship, the crew or the passengers:
 - (a) to render assistance to any person found at sea in danger of being lost;
 - (b) to proceed with all possible speed to the rescue of persons in distress, if informed of their need of assistance, in so far as such action may reasonably be expected of him;
 - (c) after a collision, to render assistance to the other ship, its crew and its passengers and, where possible, to inform the other ship of the name of his own ship, its port of registry and the nearest port at which it will call.
 2. Every coastal State shall promote the establishment, operation and maintenance of an adequate and effective search and rescue service regarding safety on and over the sea and,
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where circumstances so require, by way of mutual regional arrangements cooperate with neighbouring States for this purpose.

Article 99

Prohibition of the Transport of Slaves

Every State shall take effective measures to prevent and punish the transport of slaves in ships authorized to fly its flag and to prevent the unlawful use of its flag for that purpose. Any slave taking refuge on board any ship, whatever its flag, shall *ipso facto* be free.

Article 100

Duty to Cooperate in the Repression of Piracy

All States shall cooperate to the fullest possible extent in the repression of piracy on the high seas or in any other place outside the jurisdiction of any State.

Article 101

Definition of Piracy

Piracy consists of any of the following acts:

- (a) any illegal acts of violence or detention, or any act of depredation, committed for private ends by the crew or the passengers of a private ship or a private aircraft, and directed:
 - (i) on the high seas, against another ship or aircraft, or against persons or property on board such ship or aircraft;
 - (ii) against a ship, aircraft, persons or property in a place outside the jurisdiction of any State;
- (b) any act of voluntary participation in the operation of a ship or of an aircraft with knowledge of facts making it a pirate ship or aircraft;
- (c) any act of inciting or of intentionally facilitating an act described in subparagraph (a) or (b).

Article 102

Piracy by a Warship, Government Ship or Government Aircraft Whose Crew has Mutinied

The acts of piracy, as defined in article 101, committed by a warship, government ship or government aircraft whose crew has mutinied and taken control of the ship or aircraft are assimilated to acts committed by a private ship or aircraft.

Article 103

Definition of a Pirate Ship or Aircraft

A ship or aircraft is considered a pirate ship or aircraft if it is intended by the persons in dominant control to be used for the purpose of committing one of the acts referred to in article 101. The same applies if the ship or aircraft has been used to commit any such act, so long as it remains under the control of the persons guilty of that act.

Article 104

Retention or Loss of the Nationality of a Pirate Ship or Aircraft

A ship or aircraft may retain its nationality although it has become a pirate ship or aircraft. The retention or loss of nationality is determined by the law of the State from which such nationality was derived.

Article 105

Seizure of a Pirate Ship or Aircraft

On the high seas, or in any other place outside the jurisdiction of any State, every State may seize a pirate ship or aircraft, or a ship or aircraft taken by piracy and under the control of pirates, and arrest the persons and seize the property on board. The courts of the State which carried out the seizure may decide upon the penalties to be imposed, and may also determine the action to be taken with regard to the ships, aircraft or property, subject to the rights of third parties acting in good faith.

Article 106

Liability for Seizure without Adequate Grounds

Where the seizure of a ship or aircraft on suspicion of piracy has been effected without adequate grounds, the State making the seizure shall be liable to the State the nationality of which is possessed by the ship or aircraft for any loss or damage caused by the seizure.

Article 107

Ships and Aircraft which are Entitled to Seize on Account of Piracy

A seizure on account of piracy may be carried out only by warships or military aircraft, or other ships or aircraft clearly marked and identifiable as being on government service and authorized to that effect.

Article 108

Illicit Traffic in Narcotic Drugs or Psychotropic Substances

1. All States shall cooperate in the suppression of illicit traffic in narcotic drugs and psychotropic substances engaged in by ships on the high seas contrary to international conventions.
2. Any State which has reasonable grounds for believing that a ship flying its flag is engaged in illicit traffic in narcotic drugs or psychotropic substances may request the cooperation of other States to suppress such traffic.

Article 109

Unauthorized Broadcasting from the High Seas

1. All States shall cooperate in the suppression of unauthorized broadcasting from the high seas.
 2. For the purposes of this Convention, "unauthorized broadcasting" means the transmission of sound radio or television broadcasts from a ship or installation on the high seas intended for reception by the general public contrary to international regulations, but excluding the transmission of distress calls.
 3. Any person engaged in unauthorized broadcasting may be prosecuted before the court of:
 - (a) the flag State of the ship;
 - (b) the State of registry of the installation;
 - (c) the State of which the person is a national;
 - (d) any State where the transmissions can be received; or
 - (e) any State where authorized radio communication is suffering interference.
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4. On the high seas, a State having jurisdiction in accordance with paragraph 3 may, in conformity with article 110, arrest any person or ship engaged in unauthorized broadcasting and seize the broadcasting apparatus.

Article 110
Right of Visit

1. Except where acts of interference derive from powers conferred by treaty, a warship which encounters on the high seas a foreign ship, other than a ship entitled to complete immunity in accordance with articles 95 and 96, is not justified in boarding it unless there is reasonable ground for suspecting that:
 - (a) the ship is engaged in piracy;
 - (b) the ship is engaged in the slave trade;
 - (c) the ship is engaged in unauthorized broadcasting and the flag State of the warship has jurisdiction under article 109;
 - (d) the ship is without nationality; or
 - (e) though flying a foreign flag or refusing to show its flag, the ship is, in reality, of the same nationality as the warship.
2. In the cases provided for in paragraph 1, the warship may proceed to verify the ship's right to fly its flag. To this end, it may send a boat under the command of an officer to the suspected ship. If suspicion remains after the documents have been checked, it may proceed to a further examination on board the ship, which must be carried out with all possible consideration.
3. If the suspicions prove to be unfounded, and provided that the ship boarded has not committed any act justifying them, it shall be compensated for any loss or damage that may have been sustained.
4. These provisions apply *mutatis mutandis* to military aircraft.
5. These provisions also apply to any other duly authorized ships or aircraft clearly marked and identifiable as being on government service.

Article 111
Right of Hot Pursuit

1. The hot pursuit of a foreign ship may be undertaken when the competent authorities of the coastal State have good reason to believe that the ship has violated the laws and regulations of that State. Such pursuit must be commenced when the foreign ship or one of its boats is within the internal waters, the archipelagic waters, the territorial sea or the contiguous zone of the pursuing State, and may only be continued outside the territorial sea or the contiguous zone if the pursuit has not been interrupted. It is not necessary that, at the time when the foreign ship within the territorial sea or the contiguous zone receives the order to stop, the ship giving the order should likewise be within the territorial sea or the contiguous zone. If the foreign ship is within a contiguous zone, as defined in article 33, the pursuit may only be undertaken if there has been a violation of the rights for the protection of which the zone was established.
2. The right of hot pursuit shall apply mutatis mutandis to violations in the exclusive economic zone or on the continental shelf, including safety zones around continental shelf installations, of the laws and regulations of the coastal State applicable in accordance with this Convention to the exclusive economic zone or the continental shelf, including such safety zones.
3. The right of hot pursuit ceases as soon as the ship pursued enters the territorial sea of its own State or of a third State.
4. Hot pursuit is not deemed to have begun unless the pursuing ship has satisfied itself by such practicable means as may be available that the ship pursued or one of its boats or other craft working as a team and using the ship pursued as a mother ship is within the limits of the territorial sea, or, as the case may be, within the contiguous zone or the exclusive economic zone or above the continental shelf. The pursuit may only be commenced after a visual or auditory signal to stop has been given at a distance which enables it to be seen or heard by the foreign ship.
5. The right of hot pursuit may be exercised only by warships or military aircraft, or other ships or aircraft clearly marked and identifiable as being on government service and authorized to that effect.
6. Where hot pursuit is effected by an aircraft:
 - (a) the provisions of paragraphs 1 to 4 shall apply mutatis mutandis;
 - (b) the aircraft giving the order to stop must itself actively pursue the ship until a ship or another aircraft of the coastal State, summoned by the aircraft, arrives to take over the pursuit, unless the aircraft is itself able to arrest the ship. It does not suffice to justify

an arrest outside the territorial sea that the ship was merely sighted by the aircraft as an offender or suspected offender, if it was not both ordered to stop and pursued by the aircraft itself or other aircraft or ships which continue the pursuit without interruption.

7. The release of a ship arrested within the jurisdiction of a State and escorted to a port of that State for the purposes of an inquiry before the competent authorities may not be claimed solely on the ground that the ship, in the course of its voyage, was escorted across a portion of the exclusive economic zone or the high seas, if the circumstances rendered this necessary.
8. Where a ship has been stopped or arrested outside the territorial sea in circumstances which do not justify the exercise of the right of hot pursuit, it shall be compensated for any loss or damage that may have been thereby sustained.

Article 112

Right to Lay Submarine Cables and Pipelines

1. All States are entitled to lay submarine cables and pipelines on the bed of the high seas beyond the continental shelf.
2. Article 79, paragraph 5, applies to such cables and pipelines.

Article 113

Breaking or Injury of a Submarine Cable or Pipeline

Every State shall adopt the laws and regulations necessary to provide that the breaking or injury by a ship flying its flag or by a person subject to its jurisdiction of a submarine cable beneath the high seas done wilfully or through culpable negligence, in such a manner as to be liable to interrupt or obstruct telegraphic or telephonic communications, and similarly the breaking or injury of a submarine pipeline or high-voltage power cable, shall be a punishable offence. This provision shall apply also to conduct calculated or likely to result in such breaking or injury. However, it shall not apply to any break or injury caused by persons who acted merely with the legitimate object of saving their lives or their ships, after having taken all necessary precautions to avoid such break or injury.

Article 114

Breaking or Injury by Owners of a Submarine Cable or Pipeline of Another Submarine Cable or Pipeline

Every State shall adopt the laws and regulations necessary to provide that, if persons subject to its jurisdiction who are the owners of a submarine cable or pipeline beneath the high seas,

in laying or repairing that cable or pipeline, cause a break in or injury to another cable or pipeline, they shall bear the cost of the repairs.

Article 115

Indemnity for Loss Incurred in Avoiding Injury to a Submarine Cable or Pipeline

Every State shall adopt the laws and regulations necessary to ensure that the owners of ships who can prove that they have sacrificed an anchor, a net or any other fishing gear, in order to avoid injuring a submarine cable or pipeline, shall be indemnified by the owner of the cable or pipeline, provided that the owner of the ship has taken all reasonable precautionary measures beforehand.

SECTION 2

CONSERVATION AND MANAGEMENT OF THE LIVING RESOURCES OF THE HIGH SEAS

Article 116

Right to Fish on the High Seas

All States have the right for their nationals to engage in fishing on the high seas subject to:

- (a) their treaty obligations;
- (b) the rights and duties as well as the interests of coastal States provided for, inter alia, in article 63, paragraph 2, and articles 64 to 67; and
- (c) the provisions of this section.

Article 117

Duty of States to Adopt with Respect to Their Nationals Measures for the Conservation of the Living Resources of the High Seas

All States have the duty to take, or to cooperate with other States in taking, such measures for their respective nationals as may be necessary for the conservation of the living resources of the high seas.

Article 118

Cooperation of States in the Conservation and Management of Living Resources

States shall cooperate with each other in the conservation and management of living resources in the areas of the high seas. States whose nationals exploit identical living resources, or different living resources in the same area, shall enter into negotiations with a view to taking the measures necessary for the conservation of the living resources concerned. They shall, as appropriate, cooperate to establish subregional or regional fisheries organizations to this end.

Article 119

Conservation of the Living Resources of the High Seas

1. In determining the allowable catch and establishing other conservation measures for the living resources in the high seas, States shall:
 - (a) take measures which are designed, on the best scientific evidence available to the States concerned, to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield, as qualified by relevant environmental and economic factors, including the special requirements of developing States, and taking into account fishing patterns, the interdependence of stocks and any generally recommended international minimum standards, whether subregional, regional or global;
 - (b) take into consideration the effects on species associated with or dependent upon harvested species with a view to maintaining or restoring populations of such associated or dependent species above levels at which their reproduction may become seriously threatened.
2. Available scientific information, catch and fishing effort statistics, and other data relevant to the conservation of fish stocks shall be contributed and exchanged on a regular basis through competent international organizations, whether subregional, regional or global, where appropriate and with participation by all States concerned.
3. States concerned shall ensure that conservation measures and their implementation do not discriminate in form or in fact against the fishermen of any State.

Article 120

Marine Mammals

Article 65 also applies to the conservation and management of marine mammals in the high seas.

**PART VIII
REGIME OF ISLANDS**

**Article 121
Regime of Islands**

1. An island is a naturally formed area of land, surrounded by water, which is above water at high tide.
2. Except as provided for in paragraph 3, the territorial sea, the contiguous zone, the exclusive economic zone and the continental shelf of an island are determined in accordance with the provisions of this Convention applicable to other land territory.
3. Rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf.

**PART IX
ENCLOSED OR SEMI-ENCLOSED SEAS**

**Article 122
Definition**

For the purposes of this Convention, "enclosed or semi-enclosed sea" means a gulf, basin or sea surrounded by two or more States and connected to another sea or the ocean by a narrow outlet or consisting entirely or primarily of the territorial seas and exclusive economic zones of two or more coastal States.

**Article 123
Cooperation of States Bordering Enclosed or Semi-Enclosed Seas**

States bordering an enclosed or semi-enclosed sea should cooperate with each other in the exercise of their rights and in the performance of their duties under this Convention. To this end they shall endeavour, directly or through an appropriate regional organization:

- (a) to coordinate the management, conservation, exploration and exploitation of the living resources of the sea;
- (b) to coordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment;

- (c) to coordinate their scientific research policies and undertake where appropriate joint programmes of scientific research in the area;
- (d) to invite, as appropriate, other interested States or international organizations to cooperate with them in furtherance of the provisions of this article.

PART X
RIGHT OF ACCESS OF LAND-LOCKED STATES TO AND FROM THE SEA AND
FREEDOM OF TRANSIT

Article 124
Use of Terms

1. For the purposes of this Convention:
 - (a) "land-locked State" means a State which has no sea-coast;
 - (b) "transit State" means a State, with or without a sea-coast, situated between a land-locked State and the sea, through whose territory traffic in transit passes;
 - (c) "traffic in transit" means transit of persons, baggage, goods and means of transport across the territory of one or more transit States, when the passage across such territory, with or without trans-shipment, warehousing, breaking bulk or change in the mode of transport, is only a portion of a complete journey which begins or terminates within the territory of the land-locked State;
 - (d) "means of transport" means:
 - (i) railway rolling stock, sea, lake and river craft and road vehicles;
 - (ii) where local conditions so require, porters and pack animals.
2. Land-locked States and transit States may, by agreement between them, include as means of transport pipelines and gas lines and means of transport other than those included in paragraph 1.

Article 125

Right of Access To and From the Sea and Freedom of Transit

1. Land-locked States shall have the right of access to and from the sea for the purpose of exercising the rights provided for in this Convention including those relating to the freedom of the high seas and the common heritage of mankind. To this end, land-locked States shall enjoy freedom of transit through the territory of transit States by all means of transport.
2. The terms and modalities for exercising freedom of transit shall be agreed between the land-locked States and transit States concerned through bilateral, subregional or regional agreements.
3. Transit States, in the exercise of their full sovereignty over their territory, shall have the right to take all measures necessary to ensure that the rights and facilities provided for in this Part for land-locked States shall in no way infringe their legitimate interests.

Article 126

Exclusion of Application of the Most-Favoured-Nation Clause

The provisions of this Convention, as well as special agreements relating to the exercise of the right of access to and from the sea, establishing rights and facilities on account of the special geographical position of land-locked States, are excluded from the application of the most-favoured-nation clause.

Article 127

Customs Duties, Taxes and Other Charges

1. Traffic in transit shall not be subject to any customs duties, taxes or other charges except charges levied for specific services rendered in connection with such traffic.
2. Means of transport in transit and other facilities provided for and used by land-locked States shall not be subject to taxes or charges higher than those levied for the use of means of transport of the transit State.

Article 128

Free Zones and Other Customs Facilities

For the convenience of traffic in transit, free zones or other customs facilities may be provided at the ports of entry and exit in the transit States, by agreement between those States and the land-locked States.

Article 129

Cooperation in the Construction and Improvement of Means of Transport

Where there are no means of transport in transit States to give effect to the freedom of transit or where the existing means, including the port installations and equipment, are inadequate in any respect, the transit States and land-locked States concerned may cooperate in constructing or improving them.

Article 130

Measures to Avoid or Eliminate Delays or Other Difficulties of a Technical Nature in Traffic in Transit

1. Transit States shall take all appropriate measures to avoid delays or other difficulties of a technical nature in traffic in transit.
2. Should such delays or difficulties occur, the competent authorities of the transit States and land-locked States concerned shall cooperate towards their expeditious elimination.

Article 131

Equal Treatment in Maritime Ports

Ships flying the flag of land-locked States shall enjoy treatment equal to that accorded to other foreign ships in maritime ports.

Article 132

Grant of Greater Transit Facilities

This Convention does not entail in any way the withdrawal of transit facilities which are greater than those provided for in this Convention and which are agreed between States Parties to this Convention or granted by a State Party. This Convention also does not preclude such grant of greater facilities in the future.

**PART XI
THE AREA**

**SECTION 1
GENERAL PROVISIONS**

**Article 133
Use of Terms**

For the purposes of this Part:

- (a) "resources" means all solid, liquid or gaseous mineral resources in situ in the Area at or beneath the seabed, including polymetallic nodules;
- (b) resources, when recovered from the Area, are referred to as "minerals".

**Article 134
Scope of This Part**

1. This Part applies to the Area.
2. Activities in the Area shall be governed by the provisions of this Part.
3. The requirements concerning deposit of, and publicity to be given to, the charts or lists of geographical coordinates showing the limits referred to in article 1, paragraph 1(1), are set forth in Part VI.
4. Nothing in this article affects the establishment of the outer limits of the continental shelf in accordance with Part VI or the validity of agreements relating to delimitation between States with opposite or adjacent coasts.

**Article 135
Legal Status of the Superjacent Waters and Air Space**

Neither this Part nor any rights granted or exercised pursuant thereto shall affect the legal status of the waters superjacent to the Area or that of the air space above those waters.

**SECTION 2
PRINCIPLES GOVERNING THE AREA**

**Article 136
Common Heritage of Mankind**

The Area and its resources are the common heritage of mankind.

**Article 137
Legal Status of the Area and its Resources**

1. No State shall claim or exercise sovereignty or sovereign rights over any part of the Area or its resources, nor shall any State or natural or juridical person appropriate any part thereof. No such claim or exercise of sovereignty or sovereign rights nor such appropriation shall be recognized.
2. All rights in the resources of the Area are vested in mankind as a whole, on whose behalf the Authority shall act. These resources are not subject to alienation. The minerals recovered from the Area, however, may only be alienated in accordance with this Part and the rules, regulations and procedures of the Authority.
3. No State or natural or juridical person shall claim, acquire or exercise rights with respect to the minerals recovered from the Area except in accordance with this Part. Otherwise, no such claim, acquisition or exercise of such rights shall be recognized.

**Article 138
General Conduct of States in Relation to the Area**

The general conduct of States in relation to the Area shall be in accordance with the provisions of this Part, the principles embodied in the Charter of the United Nations and other rules of international law in the interests of maintaining peace and security and promoting international cooperation and mutual understanding.

**Article 139
Responsibility to Ensure Compliance and Liability for Damage**

1. States Parties shall have the responsibility to ensure that activities in the Area, whether carried out by States Parties, or state enterprises or natural or juridical persons which possess the nationality of States Parties or are effectively controlled by them or their nationals, shall be carried out in conformity with this Part. The same responsibility

applies to international organizations for activities in the Area carried out by such organizations.

2. Without prejudice to the rules of international law and Annex III, article 22, damage caused by the failure of a State Party or international organization to carry out its responsibilities under this Part shall entail liability; States Parties or international organizations acting together shall bear joint and several liability. A State Party shall not however be liable for damage caused by any failure to comply with this Part by a person whom it has sponsored under article 153, paragraph 2(b), if the State Party has taken all necessary and appropriate measures to secure effective compliance under article 153, paragraph 4, and Annex III, article 4, paragraph 4.
3. States Parties that are members of international organizations shall take appropriate measures to ensure the implementation of this article with respect to such organizations.

Article 140

Benefit of Mankind

1. Activities in the Area shall, as specifically provided for in this Part, be carried out for the benefit of mankind as a whole, irrespective of the geographical location of States, whether coastal or land-locked, and taking into particular consideration the interests and needs of developing States and of peoples who have not attained full independence or other self-governing status recognized by the United Nations in accordance with General Assembly resolution 1514 (XV) and other relevant General Assembly resolutions.
2. The Authority shall provide for the equitable sharing of financial and other economic benefits derived from activities in the Area through any appropriate mechanism, on a non-discriminatory basis, in accordance with article 160, paragraph 2(f)(i).

Article 141

Use of the Area Exclusively for Peaceful Purposes

The Area shall be open to use exclusively for peaceful purposes by all States, whether coastal or land-locked, without discrimination and without prejudice to the other provisions of this Part.

Article 142

Rights and Legitimate Interests of Coastal States

1. Activities in the Area, with respect to resource deposits in the Area which lie across limits of national jurisdiction, shall be conducted with due regard to the rights and legitimate interests of any coastal State across whose jurisdiction such deposits lie.

2. Consultations, including a system of prior notification, shall be maintained with the State concerned, with a view to avoiding infringement of such rights and interests. In cases where activities in the Area may result in the exploitation of resources lying within national jurisdiction, the prior consent of the coastal State concerned shall be required.
3. Neither this Part nor any rights granted or exercised pursuant thereto shall affect the rights of coastal States to take such measures consistent with the relevant provisions of Part XII as may be necessary to prevent, mitigate or eliminate grave and imminent danger to their coastline, or related interests from pollution or threat thereof or from other hazardous occurrences resulting from or caused by any activities in the Area.

Article 143

Marine Scientific Research

1. Marine scientific research in the Area shall be carried out exclusively for peaceful purposes and for the benefit of mankind as a whole, in accordance with Part XIII.
 2. The Authority may carry out marine scientific research concerning the Area and its resources, and may enter into contracts for that purpose. The Authority shall promote and encourage the conduct of marine scientific research in the Area, and shall coordinate and disseminate the results of such research and analysis when available.
 3. States Parties may carry out marine scientific research in the Area. States Parties shall promote international cooperation in marine scientific research in the Area by:
 - (a) participating in international programmes and encouraging cooperation in marine scientific research by personnel of different countries and of the Authority;
 - (b) ensuring that programmes are developed through the Authority or other international organizations as appropriate for the benefit of developing States and technologically less developed States with a view to:
 - (i) strengthening their research capabilities;
 - (ii) training their personnel and the personnel of the Authority in the techniques and applications of research;
 - (iii) fostering the employment of their qualified personnel in research in the Area;
 - (c) effectively disseminating the results of research and analysis when available, through the Authority or other international channels when appropriate.
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Article 144
Transfer of Technology

1. The Authority shall take measures in accordance with this Convention:
 - (a) to acquire technology and scientific knowledge relating to activities in the Area; and
 - (b) to promote and encourage the transfer to developing States of such technology and scientific knowledge so that all States Parties benefit therefrom.
2. To this end the Authority and States Parties shall cooperate in promoting the transfer of technology and scientific knowledge relating to activities in the Area so that the Enterprise and all States Parties may benefit therefrom. In particular they shall initiate and promote:
 - (a) programmes for the transfer of technology to the Enterprise and to developing States with regard to activities in the Area, including, *inter alia*, facilitating the access of the Enterprise and of developing States to the relevant technology, under fair and reasonable terms and conditions;
 - (b) measures directed towards the advancement of the technology of the Enterprise and the domestic technology of developing States, particularly by providing opportunities to personnel from the Enterprise and from developing States for training in marine science and technology and for their full participation in activities in the Area.

Article 145
Protection of the Marine Environment

Necessary measures shall be taken in accordance with this Convention with respect to activities in the Area to ensure effective protection for the marine environment from harmful effects which may arise from such activities. To this end the Authority shall adopt appropriate rules, regulations and procedures for *inter alia*:

- (a) the prevention, reduction and control of pollution and other hazards to the marine environment, including the coastline, and of interference with the ecological balance of the marine environment, particular attention being paid to the need for protection from harmful effects of such activities as drilling, dredging, excavation, disposal of waste, construction and operation or maintenance of installations, pipelines and other devices related to such activities;

- (b) the protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment.

Article 146

Protection of Human Life

With respect to activities in the Area, necessary measures shall be taken to ensure effective protection of human life. To this end the Authority shall adopt appropriate rules, regulations and procedures to supplement existing international law as embodied in relevant treaties.

Article 147

Accommodation of Activities in the Area and in the Marine Environment

1. Activities in the Area shall be carried out with reasonable regard for other activities in the marine environment.
 2. Installations used for carrying out activities in the Area shall be subject to the following conditions:
 - (a) such installations shall be erected, emplaced and removed solely in accordance with this Part and subject to the rules, regulations and procedures of the Authority. Due notice must be given of the erection, emplacement and removal of such installations, and permanent means for giving warning of their presence must be maintained;
 - (b) such installations may not be established where interference may be caused to the use of recognized sea lanes essential to international navigation or in areas of intense fishing activity;
 - (c) safety zones shall be established around such installations with appropriate markings to ensure the safety of both navigation and the installations. The configuration and location of such safety zones shall not be such as to form a belt impeding the lawful access of shipping to particular maritime zones or navigation along international sea lanes;
 - (d) such installations shall be used exclusively for peaceful purposes;
 - (e) such installations do not possess the status of islands. They have no territorial sea of their own, and their presence does not affect the delimitation of the territorial sea, the exclusive economic zone or the continental shelf.
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3. Other activities in the marine environment shall be conducted with reasonable regard for activities in the Area.

Article 148

Participation of Developing States in Activities in the Area

The effective participation of developing States in activities in the Area shall be promoted as specifically provided for in this Part, having due regard to their special interests and needs, and in particular to the special need of the land-locked and geographically disadvantaged among them to overcome obstacles arising from their disadvantaged location, including remoteness from the Area and difficulty of access to and from it.

Article 149

Archaeological and historical objects

All objects of an archaeological and historical nature found in the Area shall be preserved or disposed of for the benefit of mankind as a whole, particular regard being paid to the preferential rights of the State or country of origin, or the State of cultural origin, or the State of historical and archaeological origin.

SECTION 3

DEVELOPMENT OF RESOURCES OF THE AREA

Article 150

Policies Relating to Activities in the Area

Activities in the Area shall, as specifically provided for in this Part, be carried out in such a manner as to foster healthy development of the world economy and balanced growth of international trade, and to promote international cooperation for the over-all development of all countries, especially developing States, and with a view to ensuring:

- (a) the development of the resources of the Area;
- (b) orderly, safe and rational management of the resources of the Area, including the efficient conduct of activities in the Area and, in accordance with sound principles of conservation, the avoidance of unnecessary waste;
- (c) the expansion of opportunities for participation in such activities consistent in particular with articles 144 and 148;

- (d) participation in revenues by the Authority and the transfer of technology to the Enterprise and developing States as provided for in this Convention;
- (e) increased availability of the minerals derived from the Area as needed in conjunction with minerals derived from other sources, to ensure supplies to consumers of such minerals;
- (f) the promotion of just and stable prices remunerative to producers and fair to consumers for minerals derived both from the Area and from other sources, and the promotion of long-term equilibrium between supply and demand;
- (g) the enhancement of opportunities for all States Parties, irrespective of their social and economic systems or geographical location, to participate in the development of the resources of the Area and the prevention of monopolization of activities in the Area;
- (h) the protection of developing countries from adverse effects on their economies or on their export earnings resulting from a reduction in the price of an affected mineral, or in the volume of exports of that mineral, to the extent that such reduction is caused by activities in the Area, as provided in article 151;
- (i) the development of the common heritage for the benefit of mankind as a whole; and
- (j) conditions of access to markets for the imports of minerals produced from the resources of the Area and for imports of commodities produced from such minerals shall not be more favourable than the most favourable applied to imports from other sources.

Article 151

Production Policies

1.
 - (a) Without prejudice to the objectives set forth in article 150 and for the purpose of implementing subparagraph (h) of that article, the Authority, acting through existing forums or such new arrangements or agreements as may be appropriate, in which all interested parties, including both producers and consumers, participate, shall take measures necessary to promote the growth, efficiency and stability of markets for those commodities produced from the minerals derived from the Area, at prices remunerative to producers and fair to consumers. All States Parties shall cooperate to this end.
 - (b) The Authority shall have the right to participate in any commodity conference dealing with those commodities and in which all interested parties including both producers and consumers participate. The Authority shall have the right to become a party to any arrangement or agreement resulting from such conferences. Participation of the

Authority in any organs established under those arrangements or agreements shall be in respect of production in the Area and in accordance with the relevant rules of those organs.

- (c) The Authority shall carry out its obligations under the arrangements or agreements referred to in this paragraph in a manner which assures a uniform and non-discriminatory implementation in respect of all production in the Area of the minerals concerned. In doing so, the Authority shall act in a manner consistent with the terms of existing contracts and approved plans of work of the Enterprise.
- 2.
- (a) During the interim period specified in paragraph 3, commercial production shall not be undertaken pursuant to an approved plan of work until the operator has applied for and has been issued a production authorization by the Authority. Such production authorizations may not be applied for or issued more than five years prior to the planned commencement of commercial production under the plan of work unless, having regard to the nature and timing of project development, the rules, regulations and procedures of the Authority prescribe another period.
 - (b) In the application for the production authorization, the operator shall specify the annual quantity of nickel expected to be recovered under the approved plan of work. The application shall include a schedule of expenditures to be made by the operator after he has received the authorization which are reasonably calculated to allow him to begin commercial production on the date planned.
 - (c) For the purposes of subparagraphs (a) and (b), the Authority shall establish appropriate performance requirements in accordance with Annex III, article 17.
 - (d) The Authority shall issue a production authorization for the level of production applied for unless the sum of that level and the levels already authorized exceeds the nickel production ceiling, as calculated pursuant to paragraph 4 in the year of issuance of the authorization, during any year of planned production falling within the interim period.
 - (e) When issued, the production authorization and approved application shall become a part of the approved plan of work.
 - (f) If the operator's application for a production authorization is denied pursuant to subparagraph (d), the operator may apply again to the Authority at any time.
3. The interim period shall begin five years prior to 1 January of the year in which the earliest commercial production is planned to commence under an approved plan of work. If the earliest commercial production is delayed beyond the year originally planned, the
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beginning of the interim period and the production ceiling originally calculated shall be adjusted accordingly. The interim period shall last 25 years or until the end of the Review Conference referred to in article 155 or until the day when such new arrangements or agreements as are referred to in paragraph 1 enter into force, whichever is earliest. The Authority shall resume the power provided in this article for the remainder of the interim period if the said arrangements or agreements should lapse or become ineffective for any reason whatsoever.

- 4.
- (a) The production ceiling for any year of the interim period shall be the sum of:
- (i) the difference between the trend line values for nickel consumption, as calculated pursuant to subparagraph (b), for the year immediately prior to the year of the earliest commercial production and the year immediately prior to the commencement of the interim period; and
 - (iii) sixty per cent of the difference between the trend line values for nickel consumption, as calculated pursuant to subparagraph (b), for the year for which the production authorization is being applied for and the year immediately prior to the year of the earliest commercial production.
- (b) For the purposes of subparagraph (a):
- (i) trend line values used for computing the nickel production ceiling shall be those annual nickel consumption values on a trend line computed during the year in which a production authorization is issued. The trend line shall be derived from a linear regression of the logarithms of actual nickel consumption for the most recent 15-year period for which such data are available, time being the independent variable. This trend line shall be referred to as the original trend line;
 - (ii) if the annual rate of increase of the original trend line is less than 3 per cent, then the trend line used to determine the quantities referred to in subparagraph (a) shall instead be one passing through the original trend line at the value for the first year of the relevant 15-year period, and increasing at 3 per cent annually; provided however that the production ceiling established for any year of the interim period may not in any case exceed the difference between the original trend line value for that year and the original trend line value for the year immediately prior to the commencement of the interim period.
5. The Authority shall reserve to the Enterprise for its initial production a quantity of 38,000 metric tonnes of nickel from the available production ceiling calculated pursuant to paragraph 4.

- 6.
- (a) An operator may in any year produce less than or up to 8 per cent more than the level of annual production of minerals from polymetallic nodules specified in his production authorization, provided that the over-all amount of production shall not exceed that specified in the authorization. Any excess over 8 per cent and up to 20 per cent in any year, or any excess in the first and subsequent years following two consecutive years in which excesses occur, shall be negotiated with the Authority, which may require the operator to obtain a supplementary production authorization to cover additional production.
 - (b) Applications for such supplementary production authorizations shall be considered by the Authority only after all pending applications by operators who have not yet received production authorizations have been acted upon and due account has been taken of other likely applicants. The Authority shall be guided by the principle of not exceeding the total production allowed under the production ceiling in any year of the interim period. It shall not authorize the production under any plan of work of a quantity in excess of 46,500 metric tonnes of nickel per year.
7. The levels of production of other metals such as copper, cobalt and manganese extracted from the polymetallic nodules that are recovered pursuant to a production authorization should not be higher than those which would have been produced had the operator produced the maximum level of nickel from those nodules pursuant to this article. The Authority shall establish rules, regulations and procedures pursuant to Annex III, article 17, to implement this paragraph.
8. Rights and obligations relating to unfair economic practices under relevant multilateral trade agreements shall apply to the exploration for and exploitation of minerals from the Area. In the settlement of disputes arising under this provision, States Parties which are Parties to such multilateral trade agreements shall have recourse to the dispute settlement procedures of such agreements.
9. The Authority shall have the power to limit the level of production of minerals from the Area, other than minerals from polymetallic nodules, under such conditions and applying such methods as may be appropriate by adopting regulations in accordance with article 161, paragraph 8.
10. Upon the recommendation of the Council on the basis of advice from the Economic Planning Commission, the Assembly shall establish a system of compensation or take other measures of economic adjustment assistance including cooperation with specialized agencies and other international organizations to assist developing countries which suffer serious adverse effects on their export earnings or economies resulting from a reduction in the price of an affected mineral or in the volume of exports of that mineral, to the extent that such reduction is caused by activities in the Area. The Authority on request shall initiate studies on the problems of those States which are likely to be most seriously
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affected with a view to minimizing their difficulties and assisting them in their economic adjustment.

Article 152

Exercise of Powers and Functions by the Authority

1. The Authority shall avoid discrimination in the exercise of its powers and functions, including the granting of opportunities for activities in the Area.
2. Nevertheless, special consideration for developing States, including particular consideration for the land-locked and geographically disadvantaged among them, specifically provided for in this Part shall be permitted.

Article 153

System of Exploration and Exploitation

1. Activities in the Area shall be organized, carried out and controlled by the Authority on behalf of mankind as a whole in accordance with this article as well as other relevant provisions of this Part and the relevant Annexes, and the rules, regulations and procedures of the Authority.
 2. Activities in the Area shall be carried out as prescribed in paragraph 3:
 - (a) by the Enterprise, and
 - (b) in association with the Authority by States Parties, or state enterprises or natural or juridical persons which possess the nationality of States Parties or are effectively controlled by them or their nationals, when sponsored by such States, or any group of the foregoing which meets the requirements provided in this Part and in Annex III.
 3. Activities in the Area shall be carried out in accordance with a formal written plan of work drawn up in accordance with Annex III and approved by the Council after review by the Legal and Technical Commission. In the case of activities in the Area carried out as authorized by the Authority by the entities specified in paragraph 2(b), the plan of work shall, in accordance with Annex III, article 3, be in the form of a contract. Such contracts may provide for joint arrangements in accordance with Annex III, article 11.
 4. The Authority shall exercise such control over activities in the Area as is necessary for the purpose of securing compliance with the relevant provisions of this Part and the Annexes relating thereto, and the rules, regulations and procedures of the Authority, and the plans of work approved in accordance with paragraph 3. States Parties shall assist the
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Authority by taking all measures necessary to ensure such compliance in accordance with article 139.

5. The Authority shall have the right to take at any time any measures provided for under this Part to ensure compliance with its provisions and the exercise of the functions of control and regulation assigned to it thereunder or under any contract. The Authority shall have the right to inspect all installations in the Area used in connection with activities in the Area.
6. A contract under paragraph 3 shall provide for security of tenure. Accordingly, the contract shall not be revised, suspended or terminated except in accordance with Annex III, articles 18 and 19.

Article 154

Periodic Review

Every five years from the entry into force of this Convention, the Assembly shall undertake a general and systematic review of the manner in which the international regime of the Area established in this Convention has operated in practice. In the light of this review the Assembly may take, or recommend that other organs take, measures in accordance with the provisions and procedures of this Part and the Annexes relating thereto which will lead to the improvement of the operation of the regime.

Article 155

The Review Conference

1. Fifteen years from 1 January of the year in which the earliest commercial production commences under an approved plan of work, the Assembly shall convene a conference for the review of those provisions of this Part and the relevant Annexes which govern the system of exploration and exploitation of the resources of the Area. The Review Conference shall consider in detail, in the light of the experience acquired during that period:
 - (a) whether the provisions of this Part which govern the system of exploration and exploitation of the resources of the Area have achieved their aims in all respects, including whether they have benefited mankind as a whole;
 - (b) whether, during the 15-year period, reserved areas have been exploited in an effective and balanced manner in comparison with non-reserved areas;

- (c) whether the development and use of the Area and its resources have been undertaken in such a manner as to foster healthy development of the world economy and balanced growth of international trade;
 - (d) whether monopolization of activities in the Area has been prevented;
 - (e) whether the policies set forth in articles 150 and 151 have been fulfilled; and
 - (f) whether the system has resulted in the equitable sharing of benefits derived from activities in the Area, taking into particular consideration the interests and needs of the developing States.
2. The Review Conference shall ensure the maintenance of the principle of the common heritage of mankind, the international regime designed to ensure equitable exploitation of the resources of the Area for the benefit of all countries, especially the developing States, and an Authority to organize, conduct and control activities in the Area. It shall also ensure the maintenance of the principles laid down in this Part with regard to the exclusion of claims or exercise of sovereignty over any part of the Area, the rights of States and their general conduct in relation to the Area, and their participation in activities in the Area in conformity with this Convention, the prevention of monopolization of activities in the Area, the use of the Area exclusively for peaceful purposes, economic aspects of activities in the Area, marine scientific research, transfer of technology, protection of the marine environment, protection of human life, rights of coastal States, the legal status of the waters superjacent to the Area and that of the air space above those waters and accommodation between activities in the Area and other activities in the marine environment.
 3. The decision-making procedure applicable at the Review Conference shall be the same as that applicable at the Third United Nations Conference on the Law of the Sea. The Conference shall make every effort to reach agreement on any amendments by way of consensus and there should be no voting on such matters until all efforts at achieving consensus have been exhausted.
 4. If, five years after its commencement, the Review Conference has not reached agreement on the system of exploration and exploitation of the resources of the Area, it may decide during the ensuing 12 months, by a three-fourths majority of the States Parties, to adopt and submit to the States Parties for ratification or accession such amendments changing or modifying the system as it determines necessary and appropriate. Such amendments shall enter into force for all States Parties 12 months after the deposit of instruments of ratification or accession by three fourths of the States Parties.
 5. Amendments adopted by the Review Conference pursuant to this article shall not affect rights acquired under existing contracts.
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**SECTION 4
THE AUTHORITY**

**SUBSECTION A
GENERAL PROVISIONS**

**Article 156
Establishment of the Authority**

1. There is hereby established the International Seabed Authority, which shall function in accordance with this Part.
2. All States Parties are ipso facto members of the Authority.
3. Observers at the Third United Nations Conference on the Law of the Sea who have signed the Final Act and who are not referred to in article 305, paragraph 1(c), (d), (e) or (f), shall have the right to participate in the Authority as observers, in accordance with its rules, regulations and procedures.
4. The seat of the Authority shall be in Jamaica.
5. The Authority may establish such regional centres or offices as it deems necessary for the exercise of its functions.

**Article 157
Nature and Fundamental Principles of the Authority**

1. The Authority is the organization through which States Parties shall, in accordance with this Part, organize and control activities in the Area, particularly with a view to administering the resources of the Area.
2. The powers and functions of the Authority shall be those expressly conferred upon it by this Convention. The Authority shall have such incidental powers, consistent with this Convention, as are implicit in and necessary for the exercise of those powers and functions with respect to activities in the Area.
3. The Authority is based on the principle of the sovereign equality of all its members.

4. All members of the Authority shall fulfil in good faith the obligations assumed by them in accordance with this Part in order to ensure to all of them the rights and benefits resulting from membership.

Article 158

Organs of the Authority

1. There are hereby established, as the principal organs of the Authority, an Assembly, a Council and a Secretariat.
2. There is hereby established the Enterprise, the organ through which the Authority shall carry out the functions referred to in article 170, paragraph 1.
3. Such subsidiary organs as may be found necessary may be established in accordance with this Part.
4. Each principal organ of the Authority and the Enterprise shall be responsible for exercising those powers and functions which are conferred upon it. In exercising such powers and functions each organ shall avoid taking any action which may derogate from or impede the exercise of specific powers and functions conferred upon another organ.

SUBSECTION B

THE ASSEMBLY

Article 159

Composition, Procedure and Voting

1. The Assembly shall consist of all the members of the Authority. Each member shall have one representative in the Assembly, who may be accompanied by alternates and advisers.
 2. The Assembly shall meet in regular annual sessions and in such special sessions as may be decided by the Assembly, or convened by the Secretary-General at the request of the Council or of a majority of the members of the Authority.
 3. Sessions shall take place at the seat of the Authority unless otherwise decided by the Assembly.
 4. The Assembly shall adopt its rules of procedure. At the beginning of each regular session, it shall elect its President and such other officers as may be required. They shall hold office until a new President and other officers are elected at the next regular session.
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5. A majority of the members of the Assembly shall constitute a quorum.
6. Each member of the Assembly shall have one vote.
7. Decisions on questions of procedure, including decisions to convene special sessions of the Assembly, shall be taken by a majority of the members present and voting.
8. Decisions on questions of substance shall be taken by a two-thirds majority of the members present and voting, provided that such majority includes a majority of the members participating in the session. When the issue arises as to whether a question is one of substance or not, that question shall be treated as one of substance unless otherwise decided by the Assembly by the majority required for decisions on questions of substance.
9. When a question of substance comes up for voting for the first time, the President may, and shall, if requested by at least one fifth of the members of the Assembly, defer the issue of taking a vote on that question for a period not exceeding five calendar days. This rule may be applied only once to any question, and shall not be applied so as to defer the question beyond the end of the session.
10. Upon a written request addressed to the President and sponsored by at least one fourth of the members of the Authority for an advisory opinion on the conformity with this Convention of a proposal before the Assembly on any matter, the Assembly shall request the Seabed Disputes Chamber of the International Tribunal for the Law of the Sea to give an advisory opinion thereon and shall defer voting on that proposal pending receipt of the advisory opinion by the Chamber. If the advisory opinion is not received before the final week of the session in which it is requested, the Assembly shall decide when it will meet to vote upon the deferred proposal.

Article 160

Powers and Functions

1. The Assembly, as the sole organ of the Authority consisting of all the members, shall be considered the supreme organ of the Authority to which the other principal organs shall be accountable as specifically provided for in this Convention. The Assembly shall have the power to establish general policies in conformity with the relevant provisions of this Convention on any question or matter within the competence of the Authority.
2. In addition, the powers and functions of the Assembly shall be:
 - (a) to elect the members of the Council in accordance with article 161;

- (b) to elect the Secretary-General from among the candidates proposed by the Council;
 - (c) to elect, upon the recommendation of the Council, the members of the Governing Board of the Enterprise and the Director-General of the Enterprise;
 - (d) to establish such subsidiary organs as it finds necessary for the exercise of its functions in accordance with this Part. In the composition of these subsidiary organs due account shall be taken of the principle of equitable geographical distribution and of special interests and the need for members qualified and competent in the relevant technical questions dealt with by such organs;
 - (e) to assess the contributions of members to the administrative budget of the Authority in accordance with an agreed scale of assessment based upon the scale used for the regular budget of the United Nations until the Authority shall have sufficient income from other sources to meet its administrative expenses;
 - (f) (i) to consider and approve, upon the recommendation of the Council, the rules, regulations and procedures on the equitable sharing of financial and other economic benefits derived from activities in the Area and the payments and contributions made pursuant to article 82, taking into particular consideration the interests and needs of developing States and peoples who have not attained full independence or other self-governing status. If the Assembly does not approve the recommendations of the Council, the Assembly shall return them to the Council for reconsideration in the light of the views expressed by the Assembly;

(ii) to consider and approve the rules, regulations and procedures of the Authority, and any amendments thereto, provisionally adopted by the Council pursuant to article 162, paragraph 2 (o)(ii). These rules, regulations and procedures shall relate to prospecting, exploration and exploitation in the Area, the financial management and internal administration of the Authority, and, upon the recommendation of the Governing Board of the Enterprise, to the transfer of funds from the Enterprise to the Authority;
 - (g) to decide upon the equitable sharing of financial and other economic benefits derived from activities in the Area, consistent with this Convention and the rules, regulations and procedures of the Authority;
 - (h) to consider and approve the proposed annual budget of the Authority submitted by the Council;
 - (i) to examine periodic reports from the Council and from the Enterprise and special reports requested from the Council or any other organ of the Authority;
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- (j) to initiate studies and make recommendations for the purpose of promoting international cooperation concerning activities in the Area and encouraging the progressive development of international law relating thereto and its codification;
- (k) to consider problems of a general nature in connection with activities in the Area arising in particular for developing States, as well as those problems for States in connection with activities in the Area that are due to their geographical location, particularly for land-locked and geographically disadvantaged States;
- (l) to establish, upon the recommendation of the Council, on the basis of advice from the Economic Planning Commission, a system of compensation or other measures of economic adjustment assistance as provided in article 151, paragraph 10;
- (m) to suspend the exercise of rights and privileges of membership pursuant to article 185;
- (n) to discuss any question or matter within the competence of the Authority and to decide as to which organ of the Authority shall deal with any such question or matter not specifically entrusted to a particular organ, consistent with the distribution of powers and functions among the organs of the Authority.

**SUBSECTION C
THE COUNCIL**

Article 161

Composition, Procedure and Voting

1. The Council shall consist of 36 members of the Authority elected by the Assembly in the following order:
 - (a) four members from among those States Parties which, during the last five years for which statistics are available, have either consumed more than 2 per cent of total world consumption or have had net imports of more than 2 per cent of total world imports of the commodities produced from the categories of minerals to be derived from the Area, and in any case one State from the Eastern European (Socialist) region, as well as the largest consumer;
 - (b) four members from among the eight States Parties which have the largest investments in preparation for and in the conduct of activities in the Area, either directly or through their nationals, including at least one State from the Eastern European (Socialist) region;

- (c) four members from among States Parties which on the basis of production in areas under their jurisdiction are major net exporters of the categories of minerals to be derived from the Area, including at least two developing States whose exports of such minerals have a substantial bearing upon their economies;
 - (d) six members from among developing States Parties, representing special interests. The special interests to be represented shall include those of States with large populations, States which are land-locked or geographically disadvantaged, States which are major importers of the categories of minerals to be derived from the Area, States which are potential producers of such minerals, and least developed States;
 - (e) eighteen members elected according to the principle of ensuring an equitable geographical distribution of seats in the Council as a whole, provided that each geographical region shall have at least one member elected under this subparagraph. For this purpose, the geographical regions shall be Africa, Asia, Eastern European (Socialist), Latin America and Western European and Others.
2. In electing the members of the Council in accordance with paragraph 1, the Assembly shall ensure that:
- (a) land-locked and geographically disadvantaged States are represented to a degree which is reasonably proportionate to their representation in the Assembly;
 - (b) coastal States, especially developing States, which do not qualify under paragraph 1(a), (b), (c) or (d) are represented to a degree which is reasonably proportionate to their representation in the Assembly;
 - (c) each group of States Parties to be represented on the Council is represented by those members, if any, which are nominated by that group.
3. Elections shall take place at regular sessions of the Assembly. Each member of the Council shall be elected for four years. At the first election, however, the term of one half of the members of each group referred to in paragraph 1 shall be two years.
4. Members of the Council shall be eligible for re-election, but due regard should be paid to the desirability of rotation of membership.
5. The Council shall function at the seat of the Authority, and shall meet as often as the business of the Authority may require, but not less than three times a year.
6. A majority of the members of the Council shall constitute a quorum.
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7. Each member of the Council shall have one vote.
- 8.
- (a) Decisions on questions of procedure shall be taken by a majority of the members present and voting.
 - (b) Decisions on questions of substance arising under the following provisions shall be taken by a two-thirds majority of the members present and voting, provided that such majority includes a majority of the members of the Council: article 162, paragraph 2, subparagraphs (f); (g); (h); (i); (n); (p); (v); article 191.
 - (c) Decisions on questions of substance arising under the following provisions shall be taken by a three-fourths majority of the members present and voting, provided that such majority includes a majority of the members of the Council: article 162, paragraph 1; article 162, paragraph 2, subparagraphs (a); (b); (c); (d); (e); (l); (q); (r); (s); (t); (u) in cases of non-compliance by a contractor or a sponsor; (w) provided that orders issued thereunder may be binding for not more than 30 days unless confirmed by a decision taken in accordance with subparagraph (d); article 162, paragraph 2, subparagraphs (x); (y); (z); article 163, paragraph 2; article 174, paragraph 3; Annex IV, article 11.
 - (d) Decisions on questions of substance arising under the following provisions shall be taken by consensus: article 162, paragraph 2(m) and (o); adoption of amendments to Part XI.
 - (e) For the purposes of subparagraphs (d), (f) and (g), "consensus" means the absence of any formal objection. Within 14 days of the submission of a proposal to the Council, the President of the Council shall determine whether there would be a formal objection to the adoption of the proposal. If the President determines that there would be such an objection, the President shall establish and convene, within three days following such determination, a conciliation committee consisting of not more than nine members of the Council, with the President as chairman, for the purpose of reconciling the differences and producing a proposal which can be adopted by consensus. The committee shall work expeditiously and report to the Council within 14 days following its establishment. If the committee is unable to recommend a proposal which can be adopted by consensus, it shall set out in its report the grounds on which the proposal is being opposed.
 - (f) Decisions on questions not listed above which the Council is authorized to take by the rules, regulations and procedures of the Authority or otherwise shall be taken pursuant to the subparagraphs of this paragraph specified in the rules, regulations and procedures or, if not specified therein, then pursuant to the subparagraph determined by the Council if possible in advance, by consensus.
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- (g) When the issue arises as to whether a question is within subparagraph (a), (b), (c) or (d), the question shall be treated as being within the subparagraph requiring the higher or highest majority or consensus as the case may be, unless otherwise decided by the Council by the said majority or by consensus.
9. The Council shall establish a procedure whereby a member of the Authority not represented on the Council may send a representative to attend a meeting of the Council when a request is made by such member, or a matter particularly affecting it is under consideration. Such a representative shall be entitled to participate in the deliberations but not to vote.

Article 162
Powers and Functions

1. The Council is the executive organ of the Authority. The Council shall have the power to establish, in conformity with this Convention and the general policies established by the Assembly, the specific policies to be pursued by the Authority on any question or matter within the competence of the Authority.
2. In addition, the Council shall:
- (a) supervise and coordinate the implementation of the provisions of this Part on all questions and matters within the competence of the Authority and invite the attention of the Assembly to cases of non-compliance;
 - (b) propose to the Assembly a list of candidates for the election of the Secretary-General;
 - (c) recommend to the Assembly candidates for the election of the members of the Governing Board of the Enterprise and the Director-General of the Enterprise;
 - (d) establish, as appropriate, and with due regard to economy and efficiency, such subsidiary organs as it finds necessary for the exercise of its functions in accordance with this Part. In the composition of subsidiary organs, emphasis shall be placed on the need for members qualified and competent in relevant technical matters dealt with by those organs provided that due account shall be taken of the principle of equitable geographical distribution and of special interests;
 - (e) adopt its rules of procedure including the method of selecting its president;
 - (f) enter into agreements with the United Nations or other international organizations on behalf of the Authority and within its competence, subject to approval by the Assembly;

- (g) consider the reports of the Enterprise and transmit them to the Assembly with its recommendations;
- (h) present to the Assembly annual reports and such special reports as the Assembly may request;
- (i) issue directives to the Enterprise in accordance with article 170;
- (j) approve plans of work in accordance with Annex III, article 6. The Council shall act upon each plan of work within 60 days of its submission by the Legal and Technical Commission at a session of the Council in accordance with the following procedures:
 - (i) if the Commission recommends the approval of a plan of work, it shall be deemed to have been approved by the Council if no member of the Council submits in writing to the President within 14 days a specific objection alleging non-compliance with the requirements of Annex III, article 6. If there is an objection, the conciliation procedure set forth in article 161, paragraph 8(e), shall apply. If, at the end of the conciliation procedure, the objection is still maintained, the plan of work shall be deemed to have been approved by the Council unless the Council disapproves it by consensus among its members excluding any State or States making the application or sponsoring the applicant;
 - (ii) if the Commission recommends the disapproval of a plan of work or does not make a recommendation, the Council may approve the plan of work by a three-fourths majority of the members present and voting, provided that such majority includes a majority of the members participating in the session;
- (k) approve plans of work submitted by the Enterprise in accordance with Annex IV, article 12, applying, *mutatis mutandis*, the procedures set forth in subparagraph (j);
- (l) exercise control over activities in the Area in accordance with article 153, paragraph 4, and the rules, regulations and procedures of the Authority;
- (m) take, upon the recommendation of the Economic Planning Commission, necessary and appropriate measures in accordance with article 150, subparagraph (h), to provide protection from the adverse economic effects specified therein;
- (n) make recommendations to the Assembly, on the basis of advice from the Economic Planning Commission, for a system of compensation or other measures of economic adjustment assistance as provided in article 151, paragraph 10;

- (o) (i) recommend to the Assembly rules, regulations and procedures on the equitable sharing of financial and other economic benefits derived from activities in the Area and the payments and contributions made pursuant to article 82, taking into particular consideration the interests and needs of the developing States and peoples who have not attained full independence or other self-governing status;
- (ii) adopt and apply provisionally, pending approval by the Assembly, the rules, regulations and procedures of the Authority, and any amendments thereto, taking into account the recommendations of the Legal and Technical Commission or other subordinate organ concerned. These rules, regulations and procedures shall relate to prospecting, exploration and exploitation in the Area and the financial management and internal administration of the Authority. Priority shall be given to the adoption of rules, regulations and procedures for the exploration for and exploitation of polymetallic nodules. Rules, regulations and procedures for the exploration for and exploitation of any resource other than polymetallic nodules shall be adopted within three years from the date of a request to the Authority by any of its members to adopt such rules, regulations and procedures in respect of such resource. All rules, regulations and procedures shall remain in effect on a provisional basis until approved by the Assembly or until amended by the Council in the light of any views expressed by the Assembly;
- (p) review the collection of all payments to be made by or to the Authority in connection with operations pursuant to this Part;
- (q) make the selection from among applicants for production authorizations pursuant to Annex III, article 7, where such selection is required by that provision;
- (r) submit the proposed annual budget of the Authority to the Assembly for its approval;
- (s) make recommendations to the Assembly concerning policies on any question or matter within the competence of the Authority;
- (t) make recommendations to the Assembly concerning suspension of the exercise of the rights and privileges of membership pursuant to article 185;
- (u) institute proceedings on behalf of the Authority before the Seabed Disputes Chamber in cases of non-compliance;
- (v) notify the Assembly upon a decision by the Seabed Disputes Chamber in proceedings instituted under subparagraph (u), and make any recommendations which it may find appropriate with respect to measures to be taken;

- (w) issue emergency orders, which may include orders for the suspension or adjustment of operations, to prevent serious harm to the marine environment arising out of activities in the Area;
- (x) disapprove areas for exploitation by contractors or the Enterprise in cases where substantial evidence indicates the risk of serious harm to the marine environment;
- (y) establish a subsidiary organ for the elaboration of draft financial rules, regulations and procedures relating to:
 - (i) financial management in accordance with articles 171 to 175; and
 - (ii) financial arrangements in accordance with Annex III, article 13 and article 17, paragraph 1(c);
- (z) establish appropriate mechanisms for directing and supervising a staff of inspectors who shall inspect activities in the Area to determine whether this Part, the rules, regulations and procedures of the Authority, and the terms and conditions of any contract with the Authority are being complied with.

Article 163

Organs of the Council

1. There are hereby established the following organs of the Council:
 - (a) an Economic Planning Commission;
 - (b) a Legal and Technical Commission.
 2. Each Commission shall be composed of 15 members, elected by the Council from among the candidates nominated by the States Parties. However, if necessary, the Council may decide to increase the size of either Commission having due regard to economy and efficiency.
 3. Members of a Commission shall have appropriate qualifications in the area of competence of that Commission. States Parties shall nominate candidates of the highest standards of competence and integrity with qualifications in relevant fields so as to ensure the effective exercise of the functions of the Commissions.
 4. In the election of members of the Commissions, due account shall be taken of the need for equitable geographical distribution and the representation of special interests.
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5. No State Party may nominate more than one candidate for the same Commission. No person shall be elected to serve on more than one Commission.
6. Members of the Commissions shall hold office for a term of five years. They shall be eligible for re-election for a further term.
7. In the event of the death, incapacity or resignation of a member of a Commission prior to the expiration of the term of office, the Council shall elect for the remainder of the term, a member from the same geographical region or area of interest.
8. Members of Commissions shall have no financial interest in any activity relating to exploration and exploitation in the Area. Subject to their responsibilities to the Commissions upon which they serve, they shall not disclose, even after the termination of their functions, any industrial secret, proprietary data which are transferred to the Authority in accordance with Annex III, article 14, or any other confidential information coming to their knowledge by reason of their duties for the Authority.
9. Each Commission shall exercise its functions in accordance with such guidelines and directives as the Council may adopt.
10. Each Commission shall formulate and submit to the Council for approval such rules and regulations as may be necessary for the efficient conduct of the Commission's functions.
11. The decision-making procedures of the Commissions shall be established by the rules, regulations and procedures of the Authority. Recommendations to the Council shall, where necessary, be accompanied by a summary on the divergencies of opinion in the Commission.
12. Each Commission shall normally function at the seat of the Authority and shall meet as often as is required for the efficient exercise of its functions.
13. In the exercise of its functions, each Commission may, where appropriate, consult another commission, any competent organ of the United Nations or of its specialized agencies or any international organizations with competence in the subject-matter of such consultation.

Article 164

The Economic Planning Commission

1. Members of the Economic Planning Commission shall have appropriate qualifications such as those relevant to mining, management of mineral resource activities, international trade or international economics. The Council shall endeavour to ensure that the
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membership of the Commission reflects all appropriate qualifications. The Commission shall include at least two members from developing States whose exports of the categories of minerals to be derived from the Area have a substantial bearing upon their economies.

2. The Commission shall:
 - (a) propose, upon the request of the Council, measures to implement decisions relating to activities in the Area taken in accordance with this Convention;
 - (b) review the trends of and the factors affecting supply, demand and prices of minerals which may be derived from the Area, bearing in mind the interests of both importing and exporting countries, and in particular of the developing States among them;
 - (c) examine any situation likely to lead to the adverse effects referred to in article 150, subparagraph (h), brought to its attention by the State Party or States Parties concerned, and make appropriate recommendations to the Council;
 - (d) propose to the Council for submission to the Assembly, as provided in article 151, paragraph 10, a system of compensation or other measures of economic adjustment assistance for developing States which suffer adverse effects caused by activities in the Area. The Commission shall make the recommendations to the Council that are necessary for the application of the system or other measures adopted by the Assembly in specific cases.

Article 165

The Legal and Technical Commission

1. Members of the Legal and Technical Commission shall have appropriate qualifications such as those relevant to exploration for and exploitation and processing of mineral resources, oceanology, protection of the marine environment, or economic or legal matters relating to ocean mining and related fields of expertise. The Council shall endeavour to ensure that the membership of the Commission reflects all appropriate qualifications.
 2. The Commission shall:
 - (a) make recommendations with regard to the exercise of the Authority's functions upon the request of the Council;
 - (b) review formal written plans of work for activities in the Area in accordance with article 153, paragraph 3, and submit appropriate recommendations to the Council. The
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Commission shall base its recommendations solely on the grounds stated in Annex III and shall report fully thereon to the Council;

- (c) supervise, upon the request of the Council, activities in the Area, where appropriate, in consultation and collaboration with any entity carrying out such activities or State or States concerned and report to the Council;
- (d) prepare assessments of the environmental implications of activities in the Area;
- (e) make recommendations to the Council on the protection of the marine environment, taking into account the views of recognized experts in that field;
- (f) formulate and submit to the Council the rules, regulations and procedures referred to in article 162, paragraph 2(o), taking into account all relevant factors including assessments of the environmental implications of activities in the Area;
- (g) keep such rules, regulations and procedures under review and recommend to the Council from time to time such amendments thereto as it may deem necessary or desirable;
- (h) make recommendations to the Council regarding the establishment of a monitoring programme to observe, measure, evaluate and analyse, by recognized scientific methods, on a regular basis, the risks or effects of pollution of the marine environment resulting from activities in the Area, ensure that existing regulations are adequate and are complied with and coordinate the implementation of the monitoring programme approved by the Council;
- (i) recommend to the Council that proceedings be instituted on behalf of the Authority before the Seabed Disputes Chamber, in accordance with this Part and the relevant Annexes taking into account particularly article 187;
- (j) make recommendations to the Council with respect to measures to be taken, upon a decision by the Seabed Disputes Chamber in proceedings instituted in accordance with subparagraph (i);
- (k) make recommendations to the Council to issue emergency orders, which may include orders for the suspension or adjustment of operations, to prevent serious harm to the marine environment arising out of activities in the Area. Such recommendations shall be taken up by the Council on a priority basis;

- (l) make recommendations to the Council to disapprove areas for exploitation by contractors or the Enterprise in cases where substantial evidence indicates the risk of serious harm to the marine environment;

 - (m) make recommendations to the Council regarding the direction and supervision of a staff of inspectors who shall inspect activities in the Area to determine whether the provisions of this Part, the rules, regulations and procedures of the Authority, and the terms and conditions of any contract with the Authority are being complied with;

 - (n) calculate the production ceiling and issue production authorizations on behalf of the Authority pursuant to article 151, paragraphs 2 to 7, following any necessary selection among applicants for production authorizations by the Council in accordance with Annex III, article 7.
3. The members of the Commission shall, upon request by any State Party or other party concerned, be accompanied by a representative of such State or other party concerned when carrying out their function of supervision and inspection.

SUBSECTION D
THE SECRETARIAT

Article 166
The Secretariat

- 1. The Secretariat of the Authority shall comprise a Secretary-General and such staff as the Authority may require.

- 2. The Secretary-General shall be elected for four years by the Assembly from among the candidates proposed by the Council and may be re-elected.

- 3. The Secretary-General shall be the chief administrative officer of the Authority, and shall act in that capacity in all meetings of the Assembly, of the Council and of any subsidiary organ, and shall perform such other administrative functions as are entrusted to the Secretary-General by these organs.

- 4. The Secretary-General shall make an annual report to the Assembly on the work of the Authority.

Article 167

The Staff of the Authority

1. The staff of the Authority shall consist of such qualified scientific and technical and other personnel as may be required to fulfil the administrative functions of the Authority.
2. The paramount consideration in the recruitment and employment of the staff and in the determination of their conditions of service shall be the necessity of securing the highest standards of efficiency, competence and integrity. Subject to this consideration, due regard shall be paid to the importance of recruiting the staff on as wide a geographical basis as possible.
3. The staff shall be appointed by the Secretary-General. The terms and conditions on which they shall be appointed, remunerated and dismissed shall be in accordance with the rules, regulations and procedures of the Authority.

Article 168

International Character of the Secretariat

1. In the performance of their duties the Secretary-General and the staff shall not seek or receive instructions from any government or from any other source external to the Authority. They shall refrain from any action which might reflect on their position as international officials responsible only to the Authority. Each State Party undertakes to respect the exclusively international character of the responsibilities of the Secretary-General and the staff and not to seek to influence them in the discharge of their responsibilities. Any violation of responsibilities by a staff member shall be submitted to the appropriate administrative tribunal as provided in the rules, regulations and procedures of the Authority.
2. The Secretary-General and the staff shall have no financial interest in any activity relating to exploration and exploitation in the Area. Subject to their responsibilities to the Authority, they shall not disclose, even after the termination of their functions, any industrial secret, proprietary data which are transferred to the Authority in accordance with Annex III, article 14, or any other confidential information coming to their knowledge by reason of their employment with the Authority.
3. Violations of the obligations of a staff member of the Authority set forth in paragraph 2 shall, on the request of a State Party affected by such violation, or a natural or juridical person, sponsored by a State Party as provided in article 153, paragraph 2(b), and affected by such violation, be submitted by the Authority against the staff member concerned to a tribunal designated by the rules, regulations and procedures of the Authority. The Party affected shall have the right to take part in the proceedings. If the tribunal so recommends, the Secretary-General shall dismiss the staff member concerned.

4. The rules, regulations and procedures of the Authority shall contain such provisions as are necessary to implement this article.
5. Article 169 Consultation and cooperation with international and non-governmental organizations
6. The Secretary-General shall, on matters within the competence of the Authority, make suitable arrangements, with the approval of the Council, for consultation and cooperation with international and non-governmental organizations recognized by the Economic and Social Council of the United Nations.
7. Any organization with which the Secretary-General has entered into an arrangement under paragraph 1 may designate representatives to attend meetings of the organs of the Authority as observers in accordance with the rules of procedure of these organs. Procedures shall be established for obtaining the views of such organizations in appropriate cases.
8. The Secretary-General may distribute to States Parties written reports submitted by the non-governmental organizations referred to in paragraph 1 on subjects in which they have special competence and which are related to the work of the Authority.

SUBSECTION E
THE ENTERPRISE

Article 170
The Enterprise

1. The Enterprise shall be the organ of the Authority which shall carry out activities in the Area directly, pursuant to article 153, paragraph 2(a), as well as the transporting, processing and marketing of minerals recovered from the Area.
 2. The Enterprise shall, within the framework of the international legal personality of the Authority, have such legal capacity as is provided for in the Statute set forth in Annex IV. The Enterprise shall act in accordance with this Convention and the rules, regulations and procedures of the Authority, as well as the general policies established by the Assembly, and shall be subject to the directives and control of the Council.
 3. The Enterprise shall have its principal place of business at the seat of the Authority.
 4. The Enterprise shall, in accordance with article 173, paragraph 2, and Annex IV, article 11, be provided with such funds as it may require to carry out its functions, and
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shall receive technology as provided in article 144 and other relevant provisions of this Convention.

SUBSECTION F
FINANCIAL ARRANGEMENTS OF THE AUTHORITY

Article 171
Funds of the Authority

The funds of the Authority shall include:

- (a) assessed contributions made by members of the Authority in accordance with article 160, paragraph 2(e);
- (b) funds received by the Authority pursuant to Annex III, article 13, in connection with activities in the Area;
- (c) funds transferred from the Enterprise in accordance with Annex IV, article 10;
- (d) funds borrowed pursuant to article 174;
- (e) voluntary contributions made by members or other entities; and
- (f) payments to a compensation fund, in accordance with article 151, paragraph 10, whose sources are to be recommended by the Economic Planning Commission.

Article 172
Annual Budget of the Authority

The Secretary-General shall draft the proposed annual budget of the Authority and submit it to the Council. The Council shall consider the proposed annual budget and submit it to the Assembly, together with any recommendations thereon. The Assembly shall consider and approve the proposed annual budget in accordance with article 160, paragraph 2(h).

Article 173
Expenses of the Authority

1. The contributions referred to in article 171, subparagraph (a), shall be paid into a special account to meet the administrative expenses of the Authority until the Authority has sufficient funds from other sources to meet those expenses.

2. The administrative expenses of the Authority shall be a first call upon the funds of the Authority. Except for the assessed contributions referred to in article 171, subparagraph (a), the funds which remain after payment of administrative expenses may, inter alia:
 - (a) be shared in accordance with article 140 and article 160, paragraph 2(g);
 - (b) be used to provide the Enterprise with funds in accordance with article 170, paragraph 4;
 - (c) be used to compensate developing States in accordance with article 151, paragraph 10, and article 160, paragraph 2(l).

Article 174
Borrowing Power of the Authority

1. The Authority shall have the power to borrow funds.
2. The Assembly shall prescribe the limits on the borrowing power of the Authority in the financial regulations adopted pursuant to article 160, paragraph 2(f).
3. The Council shall exercise the borrowing power of the Authority.
4. States Parties shall not be liable for the debts of the Authority.

Article 175
Annual Audit

The records, books and accounts of the Authority, including its annual financial statements, shall be audited annually by an independent auditor appointed by the Assembly.

SUBSECTION G
LEGAL STATUS, PRIVILEGES AND IMMUNITIES

Article 176
Legal Status

The Authority shall have international legal personality and such legal capacity as may be necessary for the exercise of its functions and the fulfilment of its purposes.

Article 177
Privileges and Immunities

To enable the Authority to exercise its functions, it shall enjoy in the territory of each State Party the privileges and immunities set forth in this subsection. The privileges and immunities relating to the Enterprise shall be those set forth in Annex IV, article 13.

Article 178
Immunity from Legal Process

The Authority, its property and assets, shall enjoy immunity from legal process except to the extent that the Authority expressly waives this immunity in a particular case.

Article 179
Immunity from Search and Any Form of Seizure

The property and assets of the Authority, wherever located and by whomsoever held, shall be immune from search, requisition, confiscation, expropriation or any other form of seizure by executive or legislative action.

Article 180
Exemption from Restrictions, Regulations, Controls and Moratoria

The property and assets of the Authority shall be exempt from restrictions, regulations, controls and moratoria of any nature.

Article 181
Archives and Official Communications of the Authority

1. The archives of the Authority, wherever located, shall be inviolable.
2. Proprietary data, industrial secrets or similar information and personnel records shall not be placed in archives which are open to public inspection.
3. With regard to its official communications, the Authority shall be accorded by each State Party treatment no less favourable than that accorded by that State to other international organizations.

Article 182

Privileges and Immunities of Certain Persons Connected with the Authority

Representatives of States Parties attending meetings of the Assembly, the Council or organs of the Assembly or the Council, and the Secretary-General and staff of the Authority, shall enjoy in the territory of each State Party:

- (a) immunity from legal process with respect to acts performed by them in the exercise of their functions, except to the extent that the State which they represent or the Authority, as appropriate, expressly waives this immunity in a particular case;
- (b) if they are not nationals of that State Party, the same exemptions from immigration restrictions, alien registration requirements and national service obligations, the same facilities as regards exchange restrictions and the same treatment in respect of travelling facilities as are accorded by that State to the representatives, officials and employees of comparable rank of other States Parties.

Article 183

Exemption from Taxes and Customs Duties

1. Within the scope of its official activities, the Authority, its assets and property, its income, and its operations and transactions, authorized by this Convention, shall be exempt from all direct taxation and goods imported or exported for its official use shall be exempt from all customs duties. The Authority shall not claim exemption from taxes which are no more than charges for services rendered.
2. When purchases of goods or services of substantial value necessary for the official activities of the Authority are made by or on behalf of the Authority, and when the price of such goods or services includes taxes or duties, appropriate measures shall, to the extent practicable, be taken by States Parties to grant exemption from such taxes or duties or provide for their reimbursement. Goods imported or purchased under an exemption provided for in this article shall not be sold or otherwise disposed of in the territory of the State Party which granted the exemption, except under conditions agreed with that State Party.
3. No tax shall be levied by States Parties on or in respect of salaries and emoluments paid or any other form of payment made by the Authority to the Secretary-General and staff of the Authority, as well as experts performing missions for the Authority, who are not their nationals.

**SUBSECTION H
SUSPENSION OF THE EXERCISE OF RIGHTS AND PRIVILEGES OF
MEMBERS**

**Article 184
Suspension of the Exercise of Voting Rights**

A State Party which is in arrears in the payment of its financial contributions to the Authority shall have no vote if the amount of its arrears equals or exceeds the amount of the contributions due from it for the preceding two full years. The Assembly may, nevertheless, permit such a member to vote if it is satisfied that the failure to pay is due to conditions beyond the control of the member.

**Article 185
Suspension of Exercise of Rights and Privileges of Membership**

1. A State Party which has grossly and persistently violated the provisions of this Part may be suspended from the exercise of the rights and privileges of membership by the Assembly upon the recommendation of the Council.
2. No action may be taken under paragraph 1 until the Seabed Disputes Chamber has found that a State Party has grossly and persistently violated the provisions of this Part.

**SECTION 5
SETTLEMENT OF DISPUTES AND ADVISORY OPINIONS**

**Article 186
Seabed Disputes Chamber of the International Tribunal for the Law of the Sea**

The establishment of the Seabed Disputes Chamber and the manner in which it shall exercise its jurisdiction shall be governed by the provisions of this section, of Part XV and of Annex VI.

**Article 187
Jurisdiction of the Seabed Disputes Chamber**

The Seabed Disputes Chamber shall have jurisdiction under this Part and the Annexes relating thereto in disputes with respect to activities in the Area falling within the following categories:

- (a) disputes between States Parties concerning the interpretation or application of this Part and the Annexes relating thereto;
- (b) disputes between a State Party and the Authority concerning:
 - (i) acts or omissions of the Authority or of a State Party alleged to be in violation of this Part or the Annexes relating thereto or of rules, regulations and procedures of the Authority adopted in accordance therewith; or
 - (ii) acts of the Authority alleged to be in excess of jurisdiction or a misuse of power;
- (c) disputes between parties to a contract, being States Parties, the Authority or the Enterprise, state enterprises and natural or juridical persons referred to in article 153, paragraph 2(b), concerning:
 - (i) the interpretation or application of a relevant contract or a plan of work; or
 - (ii) acts or omissions of a party to the contract relating to activities in the Area and directed to the other party or directly affecting its legitimate interests;
- (d) disputes between the Authority and a prospective contractor who has been sponsored by a State as provided in article 153, paragraph 2(b), and has duly fulfilled the conditions referred to in Annex III, article 4, paragraph 6, and article 13, paragraph 2, concerning the refusal of a contract or a legal issue arising in the negotiation of the contract;
- (e) disputes between the Authority and a State Party, a state enterprise or a natural or juridical person sponsored by a State Party as provided for in article 153, paragraph 2(b), where it is alleged that the Authority has incurred liability as provided in Annex III, article 22;
- (f) any other disputes for which the jurisdiction of the Chamber is specifically provided in this Convention.

Article 188

Submission of Disputes to a Special Chamber of the International Tribunal for the Law of the Sea or an Ad Hoc Chamber of The Seabed Disputes Chamber or to Binding Commercial Arbitration

1. Disputes between States Parties referred to in article 187, subparagraph (a), may be submitted:

- (a) at the request of the parties to the dispute, to a special chamber of the International Tribunal for the Law of the Sea to be formed in accordance with Annex VI, articles 15 and 17; or
 - (b) at the request of any party to the dispute, to an ad hoc chamber of the Seabed Disputes Chamber to be formed in accordance with Annex VI, article 36.
- 2.
- (a) Disputes concerning the interpretation or application of a contract referred to in article 187, subparagraph (c)(i), shall be submitted, at the request of any party to the dispute, to binding commercial arbitration, unless the parties otherwise agree. A commercial arbitral tribunal to which the dispute is submitted shall have no jurisdiction to decide any question of interpretation of this Convention. When the dispute also involves a question of the interpretation of Part XI and the Annexes relating thereto, with respect to activities in the Area, that question shall be referred to the Seabed Disputes Chamber for a ruling.
 - (b) If, at the commencement of or in the course of such arbitration, the arbitral tribunal determines, either at the request of any party to the dispute or proprio motu, that its decision depends upon a ruling of the Seabed Disputes Chamber, the arbitral tribunal shall refer such question to the Seabed Disputes Chamber for such ruling. The arbitral tribunal shall then proceed to render its award in conformity with the ruling of the Seabed Disputes Chamber.
 - (c) In the absence of a provision in the contract on the arbitration procedure to be applied in the dispute, the arbitration shall be conducted in accordance with the UNCITRAL Arbitration Rules or such other arbitration rules as may be prescribed in the rules, regulations and procedures of the Authority, unless the parties to the dispute otherwise agree.

Article 189

Limitation on Jurisdiction with Regard to Decisions of the Authority

The Seabed Disputes Chamber shall have no jurisdiction with regard to the exercise by the Authority of its discretionary powers in accordance with this Part; in no case shall it substitute its discretion for that of the Authority. Without prejudice to article 191, in exercising its jurisdiction pursuant to article 187, the Seabed Disputes Chamber shall not pronounce itself on the question of whether any rules, regulations and procedures of the Authority are in conformity with this Convention, nor declare invalid any such rules, regulations and procedures. Its jurisdiction in this regard shall be confined to deciding claims that the application of any rules, regulations and procedures of the Authority in individual cases would be in conflict with the contractual obligations of the parties to the dispute or their obligations under this Convention, claims concerning excess of jurisdiction or misuse of

power, and to claims for damages to be paid or other remedy to be given to the party concerned for the failure of the other party to comply with its contractual obligations or its obligations under this Convention.

Article 190

Participation and Appearance of Sponsoring States Parties in Proceedings

1. If a natural or juridical person is a party to a dispute referred to in article 187, the sponsoring State shall be given notice thereof and shall have the right to participate in the proceedings by submitting written or oral statements.
2. If an action is brought against a State Party by a natural or juridical person sponsored by another State Party in a dispute referred to in article 187, subparagraph (c), the respondent State may request the State sponsoring that person to appear in the proceedings on behalf of that person. Failing such appearance, the respondent State may arrange to be represented by a juridical person of its nationality.

Article 191

Advisory Opinions

The Seabed Disputes Chamber shall give advisory opinions at the request of the Assembly or the Council on legal questions arising within the scope of their activities. Such opinions shall be given as a matter of urgency.

PART XII

PROTECTION AND PRESERVATION OF THE MARINE ENVIRONMENT

SECTION 1

GENERAL PROVISIONS

Article 192

General Obligation

States have the obligation to protect and preserve the marine environment.

Article 193

Sovereign Right of States to Exploit their Natural Resources

States have the sovereign right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment.

Article 194

Measures to Prevent, Reduce and Control Pollution of the Marine Environment

1. States shall take, individually or jointly as appropriate, all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities, and they shall endeavour to harmonize their policies in this connection.
2. States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention.
3. The measures taken pursuant to this Part shall deal with all sources of pollution of the marine environment. These measures shall include, *inter alia*, those designed to minimize to the fullest possible extent:
 - (a) the release of toxic, harmful or noxious substances, especially those which are persistent, from land-based sources, from or through the atmosphere or by dumping;
 - (b) pollution from vessels, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, preventing intentional and unintentional discharges, and regulating the design, construction, equipment, operation and manning of vessels;
 - (c) pollution from installations and devices used in exploration or exploitation of the natural resources of the seabed and subsoil, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, and regulating the design, construction, equipment, operation and manning of such installations or devices;
 - (d) pollution from other installations and devices operating in the marine environment, in particular measures for preventing accidents and dealing with emergencies, ensuring

the safety of operations at sea, and regulating the design, construction, equipment, operation and manning of such installations or devices.

4. In taking measures to prevent, reduce or control pollution of the marine environment, States shall refrain from unjustifiable interference with activities carried out by other States in the exercise of their rights and in pursuance of their duties in conformity with this Convention.
5. The measures taken in accordance with this Part shall include those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life.

Article 195

Duty Not to Transfer Damage or Hazards or Transform One Type of Pollution into Another

In taking measures to prevent, reduce and control pollution of the marine environment, States shall act so as not to transfer, directly or indirectly, damage or hazards from one area to another or transform one type of pollution into another.

Article 196

Use of Technologies or Introduction of Alien or New Species

1. States shall take all measures necessary to prevent, reduce and control pollution of the marine environment resulting from the use of technologies under their jurisdiction or control, or the intentional or accidental introduction of species, alien or new, to a particular part of the marine environment, which may cause significant and harmful changes thereto.
2. This article does not affect the application of this Convention regarding the prevention, reduction and control of pollution of the marine environment.

SECTION 2

GLOBAL AND REGIONAL COOPERATION

Article 197

Cooperation on a Global or Regional Basis

States shall cooperate on a global basis and, as appropriate, on a regional basis, directly or through competent international organizations, in formulating and elaborating international rules, standards and recommended practices and procedures consistent with this Convention,

for the protection and preservation of the marine environment, taking into account characteristic regional features.

Article 198

Notification of Imminent or Actual Damage

When a State becomes aware of cases in which the marine environment is in imminent danger of being damaged or has been damaged by pollution, it shall immediately notify other States it deems likely to be affected by such damage, as well as the competent international organizations.

Article 199

Contingency Plans against Pollution

In the cases referred to in article 198, States in the area affected, in accordance with their capabilities, and the competent international organizations shall cooperate, to the extent possible, in eliminating the effects of pollution and preventing or minimizing the damage. To this end, States shall jointly develop and promote contingency plans for responding to pollution incidents in the marine environment.

Article 200

Studies, Research Programmes and Exchange of Information and Data

States shall cooperate, directly or through competent international organizations, for the purpose of promoting studies, undertaking programmes of scientific research and encouraging the exchange of information and data acquired about pollution of the marine environment. They shall endeavour to participate actively in regional and global programmes to acquire knowledge for the assessment of the nature and extent of pollution, exposure to it, and its pathways, risks and remedies.

Article 201

Scientific Criteria for Regulations

In the light of the information and data acquired pursuant to article 200, States shall cooperate, directly or through competent international organizations, in establishing appropriate scientific criteria for the formulation and elaboration of rules, standards and recommended practices and procedures for the prevention, reduction and control of pollution of the marine environment.

SECTION 3
TECHNICAL ASSISTANCE

Article 202
Scientific and Technical Assistance to Developing States

States shall, directly or through competent international organizations:

- (a) promote programmes of scientific, educational, technical and other assistance to developing States for the protection and preservation of the marine environment and the prevention, reduction and control of marine pollution. Such assistance shall include, inter alia:
 - (i) training of their scientific and technical personnel;
 - (ii) facilitating their participation in relevant international programmes;
 - (iii) supplying them with necessary equipment and facilities;
 - (iv) enhancing their capacity to manufacture such equipment;
 - (v) advice on and developing facilities for research, monitoring, educational and other programmes;
- (b) provide appropriate assistance, especially to developing States, for the minimization of the effects of major incidents which may cause serious pollution of the marine environment;
- (c) provide appropriate assistance, especially to developing States, concerning the preparation of environmental assessments.

Article 203
Preferential treatment for developing States

Developing States shall, for the purposes of prevention, reduction and control of pollution of the marine environment or minimization of its effects, be granted preference by international organizations in:

- (a) the allocation of appropriate funds and technical assistance; and
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(b) the utilization of their specialized services.

SECTION 4
MONITORING AND ENVIRONMENTAL ASSESSMENT

Article 204
Monitoring of the Risks or Effects of Pollution

1. States shall, consistent with the rights of other States, endeavour, as far as practicable, directly or through the competent international organizations, to observe, measure, evaluate and analyse, by recognized scientific methods, the risks or effects of pollution of the marine environment.
2. In particular, States shall keep under surveillance the effects of any activities which they permit or in which they engage in order to determine whether these activities are likely to pollute the marine environment.

Article 205
Publication of Reports

States shall publish reports of the results obtained pursuant to article 204 or provide such reports at appropriate intervals to the competent international organizations, which should make them available to all States.

Article 206
Assessment of Potential Effects of Activities

When States have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment, they shall, as far as practicable, assess the potential effects of such activities on the marine environment and shall communicate reports of the results of such assessments in the manner provided in article 205.

SECTION 5

**INTERNATIONAL RULES AND NATIONAL LEGISLATION TO PREVENT,
REDUCE AND CONTROL POLLUTION OF THE MARINE ENVIRONMENT**

Article 207

Pollution from Land-Based Sources

1. States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources, including rivers, estuaries, pipelines and outfall structures, taking into account internationally agreed rules, standards and recommended practices and procedures.
2. States shall take other measures as may be necessary to prevent, reduce and control such pollution.
3. States shall endeavour to harmonize their policies in this connection at the appropriate regional level.
4. States, acting especially through competent international organizations or diplomatic conference, shall endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment from land-based sources, taking into account characteristic regional features, the economic capacity of developing States and their need for economic development. Such rules, standards and recommended practices and procedures shall be re-examined from time to time as necessary.
5. Laws, regulations, measures, rules, standards and recommended practices and procedures referred to in paragraphs 1, 2 and 4 shall include those designed to minimize, to the fullest extent possible, the release of toxic, harmful or noxious substances, especially those which are persistent, into the marine environment.

Article 208

Pollution from Seabed Activities Subject to National Jurisdiction

1. Coastal States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment arising from or in connection with seabed activities subject to their jurisdiction and from artificial islands, installations and structures under their jurisdiction, pursuant to articles 60 and 80.
 2. States shall take other measures as may be necessary to prevent, reduce and control such pollution.
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3. Such laws, regulations and measures shall be no less effective than international rules, standards and recommended practices and procedures.
4. States shall endeavour to harmonize their policies in this connection at the appropriate regional level.
5. States, acting especially through competent international organizations or diplomatic conference, shall establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment referred to in paragraph 1. Such rules, standards and recommended practices and procedures shall be re-examined from time to time as necessary.

Article 209

Pollution from Activities in the Area

1. International rules, regulations and procedures shall be established in accordance with Part XI to prevent, reduce and control pollution of the marine environment from activities in the Area. Such rules, regulations and procedures shall be re-examined from time to time as necessary.
2. Subject to the relevant provisions of this section, States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from activities in the Area undertaken by vessels, installations, structures and other devices flying their flag or of their registry or operating under their authority, as the case may be. The requirements of such laws and regulations shall be no less effective than the international rules, regulations and procedures referred to in paragraph 1.

Article 210

Pollution by Dumping

1. States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment by dumping.
 2. States shall take other measures as may be necessary to prevent, reduce and control such pollution.
 3. Such laws, regulations and measures shall ensure that dumping is not carried out without the permission of the competent authorities of States.
 4. States, acting especially through competent international organizations or diplomatic conference, shall endeavour to establish global and regional rules, standards and
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recommended practices and procedures to prevent, reduce and control such pollution. Such rules, standards and recommended practices and procedures shall be re-examined from time to time as necessary.

5. Dumping within the territorial sea and the exclusive economic zone or onto the continental shelf shall not be carried out without the express prior approval of the coastal State, which has the right to permit, regulate and control such dumping after due consideration of the matter with other States which by reason of their geographical situation may be adversely affected thereby.
6. National laws, regulations and measures shall be no less effective in preventing, reducing and controlling such pollution than the global rules and standards.

Article 211
Pollution from Vessels

1. States, acting through the competent international organization or general diplomatic conference, shall establish international rules and standards to prevent, reduce and control pollution of the marine environment from vessels and promote the adoption, in the same manner, wherever appropriate, of routing systems designed to minimize the threat of accidents which might cause pollution of the marine environment, including the coastline, and pollution damage to the related interests of coastal States. Such rules and standards shall, in the same manner, be re-examined from time to time as necessary.
2. States shall adopt laws and regulations for the prevention, reduction and control of pollution of the marine environment from vessels flying their flag or of their registry. Such laws and regulations shall at least have the same effect as that of generally accepted international rules and standards established through the competent international organization or general diplomatic conference.
3. States which establish particular requirements for the prevention, reduction and control of pollution of the marine environment as a condition for the entry of foreign vessels into their ports or internal waters or for a call at their off-shore terminals shall give due publicity to such requirements and shall communicate them to the competent international organization. Whenever such requirements are established in identical form by two or more coastal States in an endeavour to harmonize policy, the communication shall indicate which States are participating in such cooperative arrangements. Every State shall require the master of a vessel flying its flag or of its registry, when navigating within the territorial sea of a State participating in such cooperative arrangements, to furnish, upon the request of that State, information as to whether it is proceeding to a State of the same region participating in such cooperative arrangements and, if so, to indicate whether it complies with the port entry requirements of that State. This article is without prejudice

to the continued exercise by a vessel of its right of innocent passage or to the application of article 25, paragraph 2.

4. Coastal States may, in the exercise of their sovereignty within their territorial sea, adopt laws and regulations for the prevention, reduction and control of marine pollution from foreign vessels, including vessels exercising the right of innocent passage. Such laws and regulations shall, in accordance with Part II, section 3, not hamper innocent passage of foreign vessels.
5. Coastal States, for the purpose of enforcement as provided for in section 6, may in respect of their exclusive economic zones adopt laws and regulations for the prevention, reduction and control of pollution from vessels conforming to and giving effect to generally accepted international rules and standards established through the competent international organization or general diplomatic conference.
6.
 - (a) Where the international rules and standards referred to in paragraph 1 are inadequate to meet special circumstances and coastal States have reasonable grounds for believing that a particular, clearly defined area of their respective exclusive economic zones is an area where the adoption of special mandatory measures for the prevention of pollution from vessels is required for recognized technical reasons in relation to its oceanographical and ecological conditions, as well as its utilization or the protection of its resources and the particular character of its traffic, the coastal States, after appropriate consultations through the competent international organization with any other States concerned, may, for that area, direct a communication to that organization, submitting scientific and technical evidence in support and information on necessary reception facilities. Within 12 months after receiving such a communication, the organization shall determine whether the conditions in that area correspond to the requirements set out above. If the organization so determines, the coastal States may, for that area, adopt laws and regulations for the prevention, reduction and control of pollution from vessels implementing such international rules and standards or navigational practices as are made applicable, through the organization, for special areas. These laws and regulations shall not become applicable to foreign vessels until 15 months after the submission of the communication to the organization.
 - (b) The coastal States shall publish the limits of any such particular, clearly defined area.
 - (c) If the coastal States intend to adopt additional laws and regulations for the same area for the prevention, reduction and control of pollution from vessels, they shall, when submitting the aforesaid communication, at the same time notify the organization thereof. Such additional laws and regulations may relate to discharges or navigational practices but shall not require foreign vessels to observe design, construction, manning or equipment standards other than generally accepted international rules and

standards; they shall become applicable to foreign vessels 15 months after the submission of the communication to the organization, provided that the organization agrees within 12 months after the submission of the communication.

7. The international rules and standards referred to in this article should include *inter alia* those relating to prompt notification to coastal States, whose coastline or related interests may be affected by incidents, including maritime casualties, which involve discharges or probability of discharges.

Article 212

Pollution From or Through the Atmosphere

1. States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from or through the atmosphere, applicable to the air space under their sovereignty and to vessels flying their flag or vessels or aircraft of their registry, taking into account internationally agreed rules, standards and recommended practices and procedures and the safety of air navigation.
2. States shall take other measures as may be necessary to prevent, reduce and control such pollution.
3. States, acting especially through competent international organizations or diplomatic conference, shall endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control such pollution.

SECTION 6

ENFORCEMENT

Article 213

Enforcement with Respect to Pollution from Land-Based Sources

States shall enforce their laws and regulations adopted in accordance with article 207 and shall adopt laws and regulations and take other measures necessary to implement applicable international rules and standards established through competent international organizations or diplomatic conference to prevent, reduce and control pollution of the marine environment from land-based sources.

Article 214

Enforcement with Respect to Pollution from Seabed Activities

States shall enforce their laws and regulations adopted in accordance with article 208 and shall adopt laws and regulations and take other measures necessary to implement applicable international rules and standards established through competent international organizations or diplomatic conference to prevent, reduce and control pollution of the marine environment arising from or in connection with seabed activities subject to their jurisdiction and from artificial islands, installations and structures under their jurisdiction, pursuant to articles 60 and 80.

Article 215

Enforcement with Respect to Pollution from Activities in the Area

Enforcement of international rules, regulations and procedures established in accordance with Part XI to prevent, reduce and control pollution of the marine environment from activities in the Area shall be governed by that Part.

Article 216

Enforcement with Respect to Pollution by Dumping

1. Laws and regulations adopted in accordance with this Convention and applicable international rules and standards established through competent international organizations or diplomatic conference for the prevention, reduction and control of pollution of the marine environment by dumping shall be enforced:
 - (a) by the coastal State with regard to dumping within its territorial sea or its exclusive economic zone or onto its continental shelf;
 - (b) by the flag State with regard to vessels flying its flag or vessels or aircraft of its registry;
 - (c) by any State with regard to acts of loading of wastes or other matter occurring within its territory or at its off-shore terminals.
2. No State shall be obliged by virtue of this article to institute proceedings when another State has already instituted proceedings in accordance with this article.

Article 217

Enforcement by Flag States

1. States shall ensure compliance by vessels flying their flag or of their registry with applicable international rules and standards, established through the competent international organization or general diplomatic conference, and with their laws and regulations adopted in accordance with this Convention for the prevention, reduction and control of pollution of the marine environment from vessels and shall accordingly adopt laws and regulations and take other measures necessary for their implementation. Flag States shall provide for the effective enforcement of such rules, standards, laws and regulations, irrespective of where a violation occurs.
2. States shall, in particular, take appropriate measures in order to ensure that vessels flying their flag or of their registry are prohibited from sailing, until they can proceed to sea in compliance with the requirements of the international rules and standards referred to in paragraph 1, including requirements in respect of design, construction, equipment and manning of vessels.
3. States shall ensure that vessels flying their flag or of their registry carry on board certificates required by and issued pursuant to international rules and standards referred to in paragraph 1. States shall ensure that vessels flying their flag are periodically inspected in order to verify that such certificates are in conformity with the actual condition of the vessels. These certificates shall be accepted by other States as evidence of the condition of the vessels and shall be regarded as having the same force as certificates issued by them, unless there are clear grounds for believing that the condition of the vessel does not correspond substantially with the particulars of the certificates.
4. If a vessel commits a violation of rules and standards established through the competent international organization or general diplomatic conference, the flag State, without prejudice to articles 218, 220 and 228, shall provide for immediate investigation and where appropriate institute proceedings in respect of the alleged violation irrespective of where the violation occurred or where the pollution caused by such violation has occurred or has been spotted.
5. Flag States conducting an investigation of the violation may request the assistance of any other State whose cooperation could be useful in clarifying the circumstances of the case. States shall endeavour to meet appropriate requests of flag States.
6. States shall, at the written request of any State, investigate any violation alleged to have been committed by vessels flying their flag. If satisfied that sufficient evidence is available to enable proceedings to be brought in respect of the alleged violation, flag States shall without delay institute such proceedings in accordance with their laws.

7. Flag States shall promptly inform the requesting State and the competent international organization of the action taken and its outcome. Such information shall be available to all States.
8. Penalties provided for by the laws and regulations of States for vessels flying their flag shall be adequate in severity to discourage violations wherever they occur.

Article 218

Enforcement by Port States

1. When a vessel is voluntarily within a port or at an off-shore terminal of a State, that State may undertake investigations and, where the evidence so warrants, institute proceedings in respect of any discharge from that vessel outside the internal waters, territorial sea or exclusive economic zone of that State in violation of applicable international rules and standards established through the competent international organization or general diplomatic conference.
2. No proceedings pursuant to paragraph 1 shall be instituted in respect of a discharge violation in the internal waters, territorial sea or exclusive economic zone of another State unless requested by that State, the flag State, or a State damaged or threatened by the discharge violation, or unless the violation has caused or is likely to cause pollution in the internal waters, territorial sea or exclusive economic zone of the State instituting the proceedings.
3. When a vessel is voluntarily within a port or at an off-shore terminal of a State, that State shall, as far as practicable, comply with requests from any State for investigation of a discharge violation referred to in paragraph 1, believed to have occurred in, caused, or threatened damage to the internal waters, territorial sea or exclusive economic zone of the requesting State. It shall likewise, as far as practicable, comply with requests from the flag State for investigation of such a violation, irrespective of where the violation occurred.
4. The records of the investigation carried out by a port State pursuant to this article shall be transmitted upon request to the flag State or to the coastal State. Any proceedings instituted by the port State on the basis of such an investigation may, subject to section 7, be suspended at the request of the coastal State when the violation has occurred within its internal waters, territorial sea or exclusive economic zone. The evidence and records of the case, together with any bond or other financial security posted with the authorities of the port State, shall in that event be transmitted to the coastal State. Such transmittal shall preclude the continuation of proceedings in the port State.

Article 219

Measures Relating to Seaworthiness of Vessels to Avoid Pollution

Subject to section 7, States which, upon request or on their own initiative, have ascertained that a vessel within one of their ports or at one of their off-shore terminals is in violation of applicable international rules and standards relating to seaworthiness of vessels and thereby threatens damage to the marine environment shall, as far as practicable, take administrative measures to prevent the vessel from sailing. Such States may permit the vessel to proceed only to the nearest appropriate repair yard and, upon removal of the causes of the violation, shall permit the vessel to continue immediately.

Article 220

Enforcement by Coastal States

1. When a vessel is voluntarily within a port or at an off-shore terminal of a State, that State may, subject to section 7, institute proceedings in respect of any violation of its laws and regulations adopted in accordance with this Convention or applicable international rules and standards for the prevention, reduction and control of pollution from vessels when the violation has occurred within the territorial sea or the exclusive economic zone of that State.
2. Where there are clear grounds for believing that a vessel navigating in the territorial sea of a State has, during its passage therein, violated laws and regulations of that State adopted in accordance with this Convention or applicable international rules and standards for the prevention, reduction and control of pollution from vessels, that State, without prejudice to the application of the relevant provisions of Part II, section 3, may undertake physical inspection of the vessel relating to the violation and may, where the evidence so warrants, institute proceedings, including detention of the vessel, in accordance with its laws, subject to the provisions of section 7.
3. Where there are clear grounds for believing that a vessel navigating in the exclusive economic zone or the territorial sea of a State has, in the exclusive economic zone, committed a violation of applicable international rules and standards for the prevention, reduction and control of pollution from vessels or laws and regulations of that State conforming and giving effect to such rules and standards, that State may require the vessel to give information regarding its identity and port of registry, its last and its next port of call and other relevant information required to establish whether a violation has occurred.
4. States shall adopt laws and regulations and take other measures so that vessels flying their flag comply with requests for information pursuant to paragraph 3.

5. Where there are clear grounds for believing that a vessel navigating in the exclusive economic zone or the territorial sea of a State has, in the exclusive economic zone, committed a violation referred to in paragraph 3 resulting in a substantial discharge causing or threatening significant pollution of the marine environment, that State may undertake physical inspection of the vessel for matters relating to the violation if the vessel has refused to give information or if the information supplied by the vessel is manifestly at variance with the evident factual situation and if the circumstances of the case justify such inspection.
6. Where there is clear objective evidence that a vessel navigating in the exclusive economic zone or the territorial sea of a State has, in the exclusive economic zone, committed a violation referred to in paragraph 3 resulting in a discharge causing major damage or threat of major damage to the coastline or related interests of the coastal State, or to any resources of its territorial sea or exclusive economic zone, that State may, subject to section 7, provided that the evidence so warrants, institute proceedings, including detention of the vessel, in accordance with its laws.
7. Notwithstanding the provisions of paragraph 6, whenever appropriate procedures have been established, either through the competent international organization or as otherwise agreed, whereby compliance with requirements for bonding or other appropriate financial security has been assured, the coastal State if bound by such procedures shall allow the vessel to proceed.
8. The provisions of paragraphs 3, 4, 5, 6 and 7 also apply in respect of national laws and regulations adopted pursuant to article 211, paragraph 6.

Article 221

Measures to Avoid Pollution Arising from Maritime Casualties

1. Nothing in this Part shall prejudice the right of States, pursuant to international law, both customary and conventional, to take and enforce measures beyond the territorial sea proportionate to the actual or threatened damage to protect their coastline or related interests, including fishing, from pollution or threat of pollution following upon a maritime casualty or acts relating to such a casualty, which may reasonably be expected to result in major harmful consequences.
2. For the purposes of this article, "maritime casualty" means a collision of vessels, stranding or other incident of navigation, or other occurrence on board a vessel or external to it resulting in material damage or imminent threat of material damage to a vessel or cargo.

Article 222

Enforcement with Respect to Pollution From or Through the Atmosphere

States shall enforce, within the air space under their sovereignty or with regard to vessels flying their flag or vessels or aircraft of their registry, their laws and regulations adopted in accordance with article 212, paragraph 1, and with other provisions of this Convention and shall adopt laws and regulations and take other measures necessary to implement applicable international rules and standards established through competent international organizations or diplomatic conference to prevent, reduce and control pollution of the marine environment from or through the atmosphere, in conformity with all relevant international rules and standards concerning the safety of air navigation.

SECTION 7

SAFEGUARDS

Article 223

Measures to Facilitate Proceedings

In proceedings instituted pursuant to this Part, States shall take measures to facilitate the hearing of witnesses and the admission of evidence submitted by authorities of another State, or by the competent international organization, and shall facilitate the attendance at such proceedings of official representatives of the competent international organization, the flag State and any State affected by pollution arising out of any violation. The official representatives attending such proceedings shall have such rights and duties as may be provided under national laws and regulations or international law.

Article 224

Exercise of Powers of Enforcement

The powers of enforcement against foreign vessels under this Part may only be exercised by officials or by warships, military aircraft, or other ships or aircraft clearly marked and identifiable as being on government service and authorized to that effect.

Article 225

Duty to Avoid Adverse Consequences in the Exercise of the Powers of Enforcement

In the exercise under this Convention of their powers of enforcement against foreign vessels, States shall not endanger the safety of navigation or otherwise create any hazard to a vessel, or bring it to an unsafe port or anchorage, or expose the marine environment to an unreasonable risk.

Article 226
Investigation of Foreign Vessels

1.
 - (a) States shall not delay a foreign vessel longer than is essential for purposes of the investigations provided for in articles 216, 218 and 220. Any physical inspection of a foreign vessel shall be limited to an examination of such certificates, records or other documents as the vessel is required to carry by generally accepted international rules and standards or of any similar documents which it is carrying; further physical inspection of the vessel may be undertaken only after such an examination and only when:
 - (i) there are clear grounds for believing that the condition of the vessel or its equipment does not correspond substantially with the particulars of those documents;
 - (ii) the contents of such documents are not sufficient to confirm or verify a suspected violation; or
 - (iii) the vessel is not carrying valid certificates and records.
 - (b) If the investigation indicates a violation of applicable laws and regulations or international rules and standards for the protection and preservation of the marine environment, release shall be made promptly subject to reasonable procedures such as bonding or other appropriate financial security.
 - (c) Without prejudice to applicable international rules and standards relating to the seaworthiness of vessels, the release of a vessel may, whenever it would present an unreasonable threat of damage to the marine environment, be refused or made conditional upon proceeding to the nearest appropriate repair yard. Where release has been refused or made conditional, the flag State of the vessel must be promptly notified, and may seek release of the vessel in accordance with Part XV.
2. States shall cooperate to develop procedures for the avoidance of unnecessary physical inspection of vessels at sea.

Article 227
Non-Discrimination with Respect to Foreign Vessels

In exercising their rights and performing their duties under this Part, States shall not discriminate in form or in fact against vessels of any other State.

Article 228

Suspension and Restrictions on Institution of Proceedings

1. Proceedings to impose penalties in respect of any violation of applicable laws and regulations or international rules and standards relating to the prevention, reduction and control of pollution from vessels committed by a foreign vessel beyond the territorial sea of the State instituting proceedings shall be suspended upon the taking of proceedings to impose penalties in respect of corresponding charges by the flag State within six months of the date on which proceedings were first instituted, unless those proceedings relate to a case of major damage to the coastal State or the flag State in question has repeatedly disregarded its obligation to enforce effectively the applicable international rules and standards in respect of violations committed by its vessels. The flag State shall in due course make available to the State previously instituting proceedings a full dossier of the case and the records of the proceedings, whenever the flag State has requested the suspension of proceedings in accordance with this article. When proceedings instituted by the flag State have been brought to a conclusion, the suspended proceedings shall be terminated. Upon payment of costs incurred in respect of such proceedings, any bond posted or other financial security provided in connection with the suspended proceedings shall be released by the coastal State.
2. Proceedings to impose penalties on foreign vessels shall not be instituted after the expiry of three years from the date on which the violation was committed, and shall not be taken by any State in the event of proceedings having been instituted by another State subject to the provisions set out in paragraph 1.
3. The provisions of this article are without prejudice to the right of the flag State to take any measures, including proceedings to impose penalties, according to its laws irrespective of prior proceedings by another State.

Article 229

Institution of Civil Proceedings

Nothing in this Convention affects the institution of civil proceedings in respect of any claim for loss or damage resulting from pollution of the marine environment.

Article 230

Monetary Penalties and the Observance of Recognized Rights of the Accused

1. Monetary penalties only may be imposed with respect to violations of national laws and regulations or applicable international rules and standards for the prevention, reduction and control of pollution of the marine environment, committed by foreign vessels beyond the territorial sea.

2. Monetary penalties only may be imposed with respect to violations of national laws and regulations or applicable international rules and standards for the prevention, reduction and control of pollution of the marine environment, committed by foreign vessels in the territorial sea, except in the case of a wilful and serious act of pollution in the territorial sea.
3. In the conduct of proceedings in respect of such violations committed by a foreign vessel which may result in the imposition of penalties, recognized rights of the accused shall be observed.

Article 231

Notification to the Flag State and Other States Concerned

States shall promptly notify the flag State and any other State concerned of any measures taken pursuant to section 6 against foreign vessels, and shall submit to the flag State all official reports concerning such measures. However, with respect to violations committed in the territorial sea, the foregoing obligations of the coastal State apply only to such measures as are taken in proceedings. The diplomatic agents or consular officers and where possible the maritime authority of the flag State, shall be immediately informed of any such measures taken pursuant to section 6 against foreign vessels.

Article 232

Liability of States Arising from Enforcement Measures

States shall be liable for damage or loss attributable to them arising from measures taken pursuant to section 6 when such measures are unlawful or exceed those reasonably required in the light of available information. States shall provide for recourse in their courts for actions in respect of such damage or loss.

Article 233

Safeguards with Respect to Straits Used for International Navigation

Nothing in sections 5, 6 and 7 affects the legal regime of straits used for international navigation. However, if a foreign ship other than those referred to in section 10 has committed a violation of the laws and regulations referred to in article 42, paragraph 1(a) and (b), causing or threatening major damage to the marine environment of the straits, the States bordering the straits may take appropriate enforcement measures and if so shall respect *mutatis mutandis* the provisions of this section.

SECTION 8
ICE-COVERED AREAS

Article 234
Ice-Covered Areas

Coastal States have the right to adopt and enforce non-discriminatory laws and regulations for the prevention, reduction and control of marine pollution from vessels in ice-covered areas within the limits of the exclusive economic zone, where particularly severe climatic conditions and the presence of ice covering such areas for most of the year create obstructions or exceptional hazards to navigation, and pollution of the marine environment could cause major harm to or irreversible disturbance of the ecological balance. Such laws and regulations shall have due regard to navigation and the protection and preservation of the marine environment based on the best available scientific evidence.

SECTION 9
RESPONSIBILITY AND LIABILITY

Article 235
Responsibility and Liability

1. States are responsible for the fulfilment of their international obligations concerning the protection and preservation of the marine environment. They shall be liable in accordance with international law.
2. States shall ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage caused by pollution of the marine environment by natural or juridical persons under their jurisdiction.
3. With the objective of assuring prompt and adequate compensation in respect of all damage caused by pollution of the marine environment, States shall cooperate in the implementation of existing international law and the further development of international law relating to responsibility and liability for the assessment of and compensation for damage and the settlement of related disputes, as well as, where appropriate, development of criteria and procedures for payment of adequate compensation, such as compulsory insurance or compensation funds.

**SECTION 10
SOVEREIGN IMMUNITY**

**Article 236
Sovereign Immunity**

The provisions of this Convention regarding the protection and preservation of the marine environment do not apply to any warship, naval auxiliary, other vessels or aircraft owned or operated by a State and used, for the time being, only on government non-commercial service. However, each State shall ensure, by the adoption of appropriate measures not impairing operations or operational capabilities of such vessels or aircraft owned or operated by it, that such vessels or aircraft act in a manner consistent, so far as is reasonable and practicable, with this Convention.

**SECTION 11
OBLIGATIONS UNDER OTHER CONVENTIONS ON THE PROTECTION AND
PRESERVATION OF THE MARINE ENVIRONMENT**

**Article 237
Obligations Under Other Conventions on the Protection and Preservation of the Marine
Environment**

1. The provisions of this Part are without prejudice to the specific obligations assumed by States under special conventions and agreements concluded previously which relate to the protection and preservation of the marine environment and to agreements which may be concluded in furtherance of the general principles set forth in this Convention.
2. Specific obligations assumed by States under special conventions, with respect to the protection and preservation of the marine environment, should be carried out in a manner consistent with the general principles and objectives of this Convention.

PART XIII
MARINE SCIENTIFIC RESEARCH
SECTION 1
GENERAL PROVISIONS

Article 238
Right to Conduct Marine Scientific Research

All States, irrespective of their geographical location, and competent international organizations have the right to conduct marine scientific research subject to the rights and duties of other States as provided for in this Convention.

Article 239
Promotion of Marine Scientific Research

States and competent international organizations shall promote and facilitate the development and conduct of marine scientific research in accordance with this Convention.

Article 240
General Principles for the Conduct of Marine Scientific Research

In the conduct of marine scientific research the following principles shall apply:

- (a) marine scientific research shall be conducted exclusively for peaceful purposes;
- (b) marine scientific research shall be conducted with appropriate scientific methods and means compatible with this Convention;
- (c) marine scientific research shall not unjustifiably interfere with other legitimate uses of the sea compatible with this Convention and shall be duly respected in the course of such uses;
- (d) marine scientific research shall be conducted in compliance with all relevant regulations adopted in conformity with this Convention including those for the protection and preservation of the marine environment.

Article 241

Non-Recognition of Marine Scientific Research Activities as the Legal Basis for Claims

Marine scientific research activities shall not constitute the legal basis for any claim to any part of the marine environment or its resources.

SECTION 2

INTERNATIONAL COOPERATION

Article 242

Promotion of International Cooperation

1. States and competent international organizations shall, in accordance with the principle of respect for sovereignty and jurisdiction and on the basis of mutual benefit, promote international cooperation in marine scientific research for peaceful purposes.
2. In this context, without prejudice to the rights and duties of States under this Convention, a State, in the application of this Part, shall provide, as appropriate, other States with a reasonable opportunity to obtain from it, or with its cooperation, information necessary to prevent and control damage to the health and safety of persons and to the marine environment.

Article 243

Creation of Favourable Conditions

States and competent international organizations shall cooperate, through the conclusion of bilateral and multilateral agreements, to create favourable conditions for the conduct of marine scientific research in the marine environment and to integrate the efforts of scientists in studying the essence of phenomena and processes occurring in the marine environment and the interrelations between them.

Article 244

Publication and Dissemination of Information and Knowledge

1. States and competent international organizations shall, in accordance with this Convention, make available by publication and dissemination through appropriate channels information on proposed major programmes and their objectives as well as knowledge resulting from marine scientific research.
2. For this purpose, States, both individually and in cooperation with other States and with competent international organizations, shall actively promote the flow of scientific data

and information and the transfer of knowledge resulting from marine scientific research, especially to developing States, as well as the strengthening of the autonomous marine scientific research capabilities of developing States through, inter alia, programmes to provide adequate education and training of their technical and scientific personnel.

SECTION 3

CONDUCT AND PROMOTION OF MARINE SCIENTIFIC RESEARCH

Article 245

Marine Scientific Research in the Territorial Sea

Coastal States, in the exercise of their sovereignty, have the exclusive right to regulate, authorize and conduct marine scientific research in their territorial sea. Marine scientific research therein shall be conducted only with the express consent of and under the conditions set forth by the coastal State.

Article 246

Marine Scientific Research in the Exclusive Economic Zone and on the Continental Shelf

1. Coastal States, in the exercise of their jurisdiction, have the right to regulate, authorize and conduct marine scientific research in their exclusive economic zone and on their continental shelf in accordance with the relevant provisions of this Convention.
2. Marine scientific research in the exclusive economic zone and on the continental shelf shall be conducted with the consent of the coastal State.
3. Coastal States shall, in normal circumstances, grant their consent for marine scientific research projects by other States or competent international organizations in their exclusive economic zone or on their continental shelf to be carried out in accordance with this Convention exclusively for peaceful purposes and in order to increase scientific knowledge of the marine environment for the benefit of all mankind. To this end, coastal States shall establish rules and procedures ensuring that such consent will not be delayed or denied unreasonably.
4. For the purposes of applying paragraph 3, normal circumstances may exist in spite of the absence of diplomatic relations between the coastal State and the researching State.
5. Coastal States may however in their discretion withhold their consent to the conduct of a marine scientific research project of another State or competent international organization in the exclusive economic zone or on the continental shelf of the coastal State if that project:

- (a) is of direct significance for the exploration and exploitation of natural resources, whether living or non-living;
 - (b) involves drilling into the continental shelf, the use of explosives or the introduction of harmful substances into the marine environment;
 - (c) involves the construction, operation or use of artificial islands, installations and structures referred to in articles 60 and 80;
 - (d) contains information communicated pursuant to article 248 regarding the nature and objectives of the project which is inaccurate or if the researching State or competent international organization has outstanding obligations to the coastal State from a prior research project.
6. Notwithstanding the provisions of paragraph 5, coastal States may not exercise their discretion to withhold consent under subparagraph (a) of that paragraph in respect of marine scientific research projects to be undertaken in accordance with the provisions of this Part on the continental shelf, beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, outside those specific areas which coastal States may at any time publicly designate as areas in which exploitation or detailed exploratory operations focused on those areas are occurring or will occur within a reasonable period of time. Coastal States shall give reasonable notice of the designation of such areas, as well as any modifications thereto, but shall not be obliged to give details of the operations therein.
7. The provisions of paragraph 6 are without prejudice to the rights of coastal States over the continental shelf as established in article 77.
8. Marine scientific research activities referred to in this article shall not unjustifiably interfere with activities undertaken by coastal States in the exercise of their sovereign rights and jurisdiction provided for in this Convention.

Article 247

Marine Scientific Research Projects Undertaken By or Under the Auspices of International Organizations

A coastal State which is a member of or has a bilateral agreement with an international organization, and in whose exclusive economic zone or on whose continental shelf that organization wants to carry out a marine scientific research project, directly or under its auspices, shall be deemed to have authorized the project to be carried out in conformity with the agreed specifications if that State approved the detailed project when the decision was made by the organization for the undertaking of the project, or is willing to participate in it,

and has not expressed any objection within four months of notification of the project by the organization to the coastal State.

Article 248

Duty to Provide Information to the Coastal State

States and competent international organizations which intend to undertake marine scientific research in the exclusive economic zone or on the continental shelf of a coastal State shall, not less than six months in advance of the expected starting date of the marine scientific research project, provide that State with a full description of:

- (a) the nature and objectives of the project;
- (b) the method and means to be used, including name, tonnage, type and class of vessels and a description of scientific equipment;
- (c) the precise geographical areas in which the project is to be conducted;
- (d) the expected date of first appearance and final departure of the research vessels, or deployment of the equipment and its removal, as appropriate;
- (e) the name of the sponsoring institution, its director, and the person in charge of the project; and
- (f) the extent to which it is considered that the coastal State should be able to participate or to be represented in the project.

Article 249

Duty to Comply with Certain Conditions

1. States and competent international organizations when undertaking marine scientific research in the exclusive economic zone or on the continental shelf of a coastal State shall comply with the following conditions:
 - (a) ensure the right of the coastal State, if it so desires, to participate or be represented in the marine scientific research project, especially on board research vessels and other craft or scientific research installations, when practicable, without payment of any remuneration to the scientists of the coastal State and without obligation to contribute towards the costs of the project;

- (b) provide the coastal State, at its request, with preliminary reports, as soon as practicable, and with the final results and conclusions after the completion of the research;
 - (c) undertake to provide access for the coastal State, at its request, to all data and samples derived from the marine scientific research project and likewise to furnish it with data which may be copied and samples which may be divided without detriment to their scientific value;
 - (d) if requested, provide the coastal State with an assessment of such data, samples and research results or provide assistance in their assessment or interpretation;
 - (e) ensure, subject to paragraph 2, that the research results are made internationally available through appropriate national or international channels, as soon as practicable;
 - (f) inform the coastal State immediately of any major change in the research programme;
 - (g) unless otherwise agreed, remove the scientific research installations or equipment once the research is completed.
2. This article is without prejudice to the conditions established by the laws and regulations of the coastal State for the exercise of its discretion to grant or withhold consent pursuant to article 246, paragraph 5, including requiring prior agreement for making internationally available the research results of a project of direct significance for the exploration and exploitation of natural resources.

Article 250

Communications Concerning Marine Scientific Research Projects

Communications concerning the marine scientific research projects shall be made through appropriate official channels, unless otherwise agreed.

Article 251

General Criteria and Guidelines

States shall seek to promote through competent international organizations the establishment of general criteria and guidelines to assist States in ascertaining the nature and implications of marine scientific research.

Article 252
Implied Consent

States or competent international organizations may proceed with a marine scientific research project six months after the date upon which the information required pursuant to article 248 was provided to the coastal State unless within four months of the receipt of the communication containing such information the coastal State has informed the State or organization conducting the research that:

- (a) it has withheld its consent under the provisions of article 246; or
- (b) the information given by that State or competent international organization regarding the nature or objectives of the project does not conform to the manifestly evident facts; or
- (c) it requires supplementary information relevant to conditions and the information provided for under articles 248 and 249; or
- (d) outstanding obligations exist with respect to a previous marine scientific research project carried out by that State or organization, with regard to conditions established in article 249.

Article 253
Suspension or Cessation of Marine Scientific Research Activities

1. A coastal State shall have the right to require the suspension of any marine scientific research activities in progress within its exclusive economic zone or on its continental shelf if:
 - (a) the research activities are not being conducted in accordance with the information communicated as provided under article 248 upon which the consent of the coastal State was based; or
 - (b) the State or competent international organization conducting the research activities fails to comply with the provisions of article 249 concerning the rights of the coastal State with respect to the marine scientific research project.
2. A coastal State shall have the right to require the cessation of any marine scientific research activities in case of any non-compliance with the provisions of article 248 which amounts to a major change in the research project or the research activities.

3. A coastal State may also require cessation of marine scientific research activities if any of the situations contemplated in paragraph 1 are not rectified within a reasonable period of time.
4. Following notification by the coastal State of its decision to order suspension or cessation, States or competent international organizations authorized to conduct marine scientific research activities shall terminate the research activities that are the subject of such a notification.
5. An order of suspension under paragraph 1 shall be lifted by the coastal State and the marine scientific research activities allowed to continue once the researching State or competent international organization has complied with the conditions required under articles 248 and 249.

Article 254

Rights of Neighbouring Land-locked and Geographically Disadvantaged States

1. States and competent international organizations which have submitted to a coastal State a project to undertake marine scientific research referred to in article 246, paragraph 3, shall give notice to the neighbouring land-locked and geographically disadvantaged States of the proposed research project, and shall notify the coastal State thereof.
2. After the consent has been given for the proposed marine scientific research project by the coastal State concerned, in accordance with article 246 and other relevant provisions of this Convention, States and competent international organizations undertaking such a project shall provide to the neighbouring land-locked and geographically disadvantaged States, at their request and when appropriate, relevant information as specified in article 248 and article 249, paragraph 1(f).
3. The neighbouring land-locked and geographically disadvantaged States referred to above shall, at their request, be given the opportunity to participate, whenever feasible, in the proposed marine scientific research project through qualified experts appointed by them and not objected to by the coastal State, in accordance with the conditions agreed for the project, in conformity with the provisions of this Convention, between the coastal State concerned and the State or competent international organizations conducting the marine scientific research.
4. States and competent international organizations referred to in paragraph 1 shall provide to the above-mentioned land-locked and geographically disadvantaged States, at their request, the information and assistance specified in article 249, paragraph 1(d), subject to the provisions of article 249, paragraph 2.

Article 255

Measures to Facilitate Marine Scientific Research and Assist Research Vessels

States shall endeavour to adopt reasonable rules, regulations and procedures to promote and facilitate marine scientific research conducted in accordance with this Convention beyond their territorial sea and, as appropriate, to facilitate, subject to the provisions of their laws and regulations, access to their harbours and promote assistance for marine scientific research vessels which comply with the relevant provisions of this Part.

Article 256

Marine Scientific Research in the Area

All States, irrespective of their geographical location, and competent international organizations have the right, in conformity with the provisions of Part XI, to conduct marine scientific research in the Area.

Article 257

Marine Scientific Research in the Water Column Beyond the Exclusive Economic Zone

All States, irrespective of their geographical location, and competent international organizations have the right, in conformity with this Convention, to conduct marine scientific research in the water column beyond the limits of the exclusive economic zone.

SECTION 4

SCIENTIFIC RESEARCH INSTALLATIONS OR EQUIPMENT IN THE MARINE ENVIRONMENT

Article 258

Deployment and Use

The deployment and use of any type of scientific research installations or equipment in any area of the marine environment shall be subject to the same conditions as are prescribed in this Convention for the conduct of marine scientific research in any such area.

Article 259

Legal Status

The installations or equipment referred to in this section do not possess the status of islands. They have no territorial sea of their own, and their presence does not affect the delimitation of the territorial sea, the exclusive economic zone or the continental shelf.

Article 260
Safety Zones

Safety zones of a reasonable breadth not exceeding a distance of 500 metres may be created around scientific research installations in accordance with the relevant provisions of this Convention. All States shall ensure that such safety zones are respected by their vessels.

Article 261
Non-Interference with Shipping Routes

The deployment and use of any type of scientific research installations or equipment shall not constitute an obstacle to established international shipping routes.

Article 262
Identification Markings and Warning Signals

Installations or equipment referred to in this section shall bear identification markings indicating the State of registry or the international organization to which they belong and shall have adequate internationally agreed warning signals to ensure safety at sea and the safety of air navigation, taking into account rules and standards established by competent international organizations.

SECTION 5
RESPONSIBILITY AND LIABILITY

Article 263
Responsibility and Liability

1. States and competent international organizations shall be responsible for ensuring that marine scientific research, whether undertaken by them or on their behalf, is conducted in accordance with this Convention.
2. States and competent international organizations shall be responsible and liable for the measures they take in contravention of this Convention in respect of marine scientific research conducted by other States, their natural or juridical persons or by competent international organizations, and shall provide compensation for damage resulting from such measures.
3. States and competent international organizations shall be responsible and liable pursuant to article 235 for damage caused by pollution of the marine environment arising out of marine scientific research undertaken by them or on their behalf.

SECTION 6
SETTLEMENT OF DISPUTES AND INTERIM MEASURES

Article 264
Settlement of Disputes

Disputes concerning the interpretation or application of the provisions of this Convention with regard to marine scientific research shall be settled in accordance with Part XV, sections 2 and 3.

Article 265
Interim Measures

Pending settlement of a dispute in accordance with Part XV, sections 2 and 3, the State or competent international organization authorized to conduct a marine scientific research project shall not allow research activities to commence or continue without the express consent of the coastal State concerned.

PART XIV
DEVELOPMENT AND TRANSFER OF MARINE TECHNOLOGY

SECTION 1
GENERAL PROVISIONS

Article 266
Promotion of the Development and Transfer of Marine Technology

1. States, directly or through competent international organizations, shall cooperate in accordance with their capabilities to promote actively the development and transfer of marine science and marine technology on fair and reasonable terms and conditions.
2. States shall promote the development of the marine scientific and technological capacity of States which may need and request technical assistance in this field, particularly developing States, including land-locked and geographically disadvantaged States, with regard to the exploration, exploitation, conservation and management of marine resources, the protection and preservation of the marine environment, marine scientific research and other activities in the marine environment compatible with this Convention, with a view to accelerating the social and economic development of the developing States.

3. States shall endeavour to foster favourable economic and legal conditions for the transfer of marine technology for the benefit of all parties concerned on an equitable basis.

Article 267

Protection of Legitimate Interests

States, in promoting cooperation pursuant to article 266, shall have due regard for all legitimate interests including, *inter alia*, the rights and duties of holders, suppliers and recipients of marine technology.

Article 268

Basic Objectives

States, directly or through competent international organizations, shall promote:

- (a) the acquisition, evaluation and dissemination of marine technological knowledge and facilitate access to such information and data;
- (b) the development of appropriate marine technology;
- (c) the development of the necessary technological infrastructure to facilitate the transfer of marine technology;
- (d) the development of human resources through training and education of nationals of developing States and countries and especially the nationals of the least developed among them;
- (e) international cooperation at all levels, particularly at the regional, subregional and bilateral levels.

Article 269

Measures to Achieve the Basic Objectives

In order to achieve the objectives referred to in article 268, States, directly or through competent international organizations, shall endeavour, *inter alia*, to:

- (a) establish programmes of technical cooperation for the effective transfer of all kinds of marine technology to States which may need and request technical assistance in this field, particularly the developing land-locked and geographically disadvantaged States, as well as other developing States which have not been able either to establish or develop their

own technological capacity in marine science and in the exploration and exploitation of marine resources or to develop the infrastructure of such technology;

- (b) promote favourable conditions for the conclusion of agreements, contracts and other similar arrangements, under equitable and reasonable conditions;
- (c) hold conferences, seminars and symposia on scientific and technological subjects, in particular on policies and methods for the transfer of marine technology;
- (d) promote the exchange of scientists and of technological and other experts;
- (e) undertake projects and promote joint ventures and other forms of bilateral and multilateral cooperation.

SECTION 2 INTERNATIONAL COOPERATION

Article 270 Ways and Means of International Cooperation

International cooperation for the development and transfer of marine technology shall be carried out, where feasible and appropriate, through existing bilateral, regional or multilateral programmes, and also through expanded and new programmes in order to facilitate marine scientific research, the transfer of marine technology, particularly in new fields, and appropriate international funding for ocean research and development.

Article 271 Guidelines, Criteria and Standards

States, directly or through competent international organizations, shall promote the establishment of generally accepted guidelines, criteria and standards for the transfer of marine technology on a bilateral basis or within the framework of international organizations and other fora, taking into account, in particular, the interests and needs of developing States.

Article 272 Coordination of International Programmes

In the field of transfer of marine technology, States shall endeavour to ensure that competent international organizations coordinate their activities, including any regional or global programmes, taking into account the interests and needs of developing States, particularly land-locked and geographically disadvantaged States.

Article 273

Cooperation with International Organizations and the Authority

States shall cooperate actively with competent international organizations and the Authority to encourage and facilitate the transfer to developing States, their nationals and the Enterprise of skills and marine technology with regard to activities in the Area.

Article 274

Objectives of the Authority

Subject to all legitimate interests including, *inter alia*, the rights and duties of holders, suppliers and recipients of technology, the Authority, with regard to activities in the Area, shall ensure that:

- (a) on the basis of the principle of equitable geographical distribution, nationals of developing States, whether coastal, land-locked or geographically disadvantaged, shall be taken on for the purposes of training as members of the managerial, research and technical staff constituted for its undertakings;
- (b) the technical documentation on the relevant equipment, machinery, devices and processes is made available to all States, in particular developing States which may need and request technical assistance in this field;
- (c) adequate provision is made by the Authority to facilitate the acquisition of technical assistance in the field of marine technology by States which may need and request it, in particular developing States, and the acquisition by their nationals of the necessary skills and know-how, including professional training;
- (d) States which may need and request technical assistance in this field, in particular developing States, are assisted in the acquisition of necessary equipment, processes, plant and other technical know-how through any financial arrangements provided for in this Convention.

SECTION 3
NATIONAL AND REGIONAL MARINE SCIENTIFIC AND TECHNOLOGICAL CENTRES

Article 275
Establishment of National Centres

1. States, directly or through competent international organizations and the Authority, shall promote the establishment, particularly in developing coastal States, of national marine scientific and technological research centres and the strengthening of existing national centres, in order to stimulate and advance the conduct of marine scientific research by developing coastal States and to enhance their national capabilities to utilize and preserve their marine resources for their economic benefit.
2. States, through competent international organizations and the Authority, shall give adequate support to facilitate the establishment and strengthening of such national centres so as to provide for advanced training facilities and necessary equipment, skills and know-how as well as technical experts to such States which may need and request such assistance.

Article 276
Establishment of Regional Centres

1. States, in coordination with the competent international organizations, the Authority and national marine scientific and technological research institutions, shall promote the establishment of regional marine scientific and technological research centres, particularly in developing States, in order to stimulate and advance the conduct of marine scientific research by developing States and foster the transfer of marine technology.
2. All States of a region shall cooperate with the regional centres therein to ensure the more effective achievement of their objectives.

Article 277
Functions of Regional Centres

The functions of such regional centres shall include, *inter alia*:

- (a) training and educational programmes at all levels on various aspects of marine scientific and technological research, particularly marine biology, including conservation and management of living resources, oceanography, hydrography, engineering, geological exploration of the seabed, mining and desalination technologies;

- (b) management studies;
- (c) study programmes related to the protection and preservation of the marine environment and the prevention, reduction and control of pollution;
- (d) organization of regional conferences, seminars and symposia;
- (e) acquisition and processing of marine scientific and technological data and information;
- (f) prompt dissemination of results of marine scientific and technological research in readily available publications;
- (g) publicizing national policies with regard to the transfer of marine technology and systematic comparative study of those policies;
- (h) compilation and systematization of information on the marketing of technology and on contracts and other arrangements concerning patents;
- (i) technical cooperation with other States of the region.

SECTION 4

COOPERATION AMONG INTERNATIONAL ORGANIZATIONS

Article 278

Cooperation among International Organizations

The competent international organizations referred to in this Part and in Part XIII shall take all appropriate measures to ensure, either directly or in close cooperation among themselves, the effective discharge of their functions and responsibilities under this Part.

**PART XV
SETTLEMENT OF DISPUTES**

**SECTION 1
GENERAL PROVISIONS**

**Article 279
Obligation to Settle Disputes by Peaceful Means**

States Parties shall settle any dispute between them concerning the interpretation or application of this Convention by peaceful means in accordance with Article 2, paragraph 3, of the Charter of the United Nations and, to this end, shall seek a solution by the means indicated in Article 33, paragraph 1, of the Charter.

**Article 280
Settlement of Disputes by Any Peaceful Means Chosen by the Parties**

Nothing in this Part impairs the right of any States Parties to agree at any time to settle a dispute between them concerning the interpretation or application of this Convention by any peaceful means of their own choice.

**Article 281
Procedure where No Settlement has been Reached by the Parties**

1. If the States Parties which are parties to a dispute concerning the interpretation or application of this Convention have agreed to seek settlement of the dispute by a peaceful means of their own choice, the procedures provided for in this Part apply only where no settlement has been reached by recourse to such means and the agreement between the parties does not exclude any further procedure.
2. If the parties have also agreed on a time-limit, paragraph 1 applies only upon the expiration of that time-limit.

**Article 282
Obligations under General, Regional or Bilateral Agreements**

If the States Parties which are parties to a dispute concerning the interpretation or application of this Convention have agreed, through a general, regional or bilateral agreement or otherwise, that such dispute shall, at the request of any party to the dispute, be submitted to a procedure that entails a binding decision, that procedure shall apply in lieu of the procedures provided for in this Part, unless the parties to the dispute otherwise agree.

Article 283

Obligation to Exchange Views

1. When a dispute arises between States Parties concerning the interpretation or application of this Convention, the parties to the dispute shall proceed expeditiously to an exchange of views regarding its settlement by negotiation or other peaceful means.
2. The parties shall also proceed expeditiously to an exchange of views where a procedure for the settlement of such a dispute has been terminated without a settlement or where a settlement has been reached and the circumstances require consultation regarding the manner of implementing the settlement.

Article 284

Conciliation

1. A State Party which is a party to a dispute concerning the interpretation or application of this Convention may invite the other party or parties to submit the dispute to conciliation in accordance with the procedure under Annex V, section 1, or another conciliation procedure.
2. If the invitation is accepted and if the parties agree upon the conciliation procedure to be applied, any party may submit the dispute to that procedure.
3. If the invitation is not accepted or the parties do not agree upon the procedure, the conciliation proceedings shall be deemed to be terminated.
4. Unless the parties otherwise agree, when a dispute has been submitted to conciliation, the proceedings may be terminated only in accordance with the agreed conciliation procedure.

Article 285

Application of this section to disputes submitted pursuant to Part XI

This section applies to any dispute which pursuant to Part XI, section 5, is to be settled in accordance with procedures provided for in this Part. If an entity other than a State Party is a party to such a dispute, this section applies *mutatis mutandis*.

SECTION 2
COMPULSORY PROCEDURES ENTAILING BINDING DECISIONS

Article 286
Application of Procedures under This Section

Subject to section 3, any dispute concerning the interpretation or application of this Convention shall, where no settlement has been reached by recourse to section 1, be submitted at the request of any party to the dispute to the court or tribunal having jurisdiction under this section.

Article 287
Choice of Procedure

1. When signing, ratifying or acceding to this Convention or at any time thereafter, a State shall be free to choose, by means of a written declaration, one or more of the following means for the settlement of disputes concerning the interpretation or application of this Convention:
 - (a) the International Tribunal for the Law of the Sea established in accordance with Annex VI;
 - (b) the International Court of Justice;
 - (c) an arbitral tribunal constituted in accordance with Annex VII;
 - (d) a special arbitral tribunal constituted in accordance with Annex VIII for one or more of the categories of disputes specified therein.
2. A declaration made under paragraph 1 shall not affect or be affected by the obligation of a State Party to accept the jurisdiction of the Seabed Disputes Chamber of the International Tribunal for the Law of the Sea to the extent and in the manner provided for in Part XI, section 5.
3. A State Party, which is a party to a dispute not covered by a declaration in force, shall be deemed to have accepted arbitration in accordance with Annex VII.
4. If the parties to a dispute have accepted the same procedure for the settlement of the dispute, it may be submitted only to that procedure, unless the parties otherwise agree.

5. If the parties to a dispute have not accepted the same procedure for the settlement of the dispute, it may be submitted only to arbitration in accordance with Annex VII, unless the parties otherwise agree.
6. A declaration made under paragraph 1 shall remain in force until three months after notice of revocation has been deposited with the Secretary-General of the United Nations.
7. A new declaration, a notice of revocation or the expiry of a declaration does not in any way affect proceedings pending before a court or tribunal having jurisdiction under this article, unless the parties otherwise agree.
8. Declarations and notices referred to in this article shall be deposited with the Secretary-General of the United Nations, who shall transmit copies thereof to the States Parties.

Article 288
Jurisdiction

1. A court or tribunal referred to in article 287 shall have jurisdiction over any dispute concerning the interpretation or application of this Convention which is submitted to it in accordance with this Part.
2. A court or tribunal referred to in article 287 shall also have jurisdiction over any dispute concerning the interpretation or application of an international agreement related to the purposes of this Convention, which is submitted to it in accordance with the agreement.
3. The Seabed Disputes Chamber of the International Tribunal for the Law of the Sea established in accordance with Annex VI, and any other chamber or arbitral tribunal referred to in Part XI, section 5, shall have jurisdiction in any matter which is submitted to it in accordance therewith.
4. In the event of a dispute as to whether a court or tribunal has jurisdiction, the matter shall be settled by decision of that court or tribunal.

Article 289
Experts

In any dispute involving scientific or technical matters, a court or tribunal exercising jurisdiction under this section may, at the request of a party or *proprio motu*, select in consultation with the parties no fewer than two scientific or technical experts chosen preferably from the relevant list prepared in accordance with Annex VIII, article 2, to sit with the court or tribunal but without the right to vote.

Article 290
Provisional Measures

1. If a dispute has been duly submitted to a court or tribunal which considers that prima facie it has jurisdiction under this Part or Part XI, section 5, the court or tribunal may prescribe any provisional measures which it considers appropriate under the circumstances to preserve the respective rights of the parties to the dispute or to prevent serious harm to the marine environment, pending the final decision.
2. Provisional measures may be modified or revoked as soon as the circumstances justifying them have changed or ceased to exist.
3. Provisional measures may be prescribed, modified or revoked under this article only at the request of a party to the dispute and after the parties have been given an opportunity to be heard.
4. The court or tribunal shall forthwith give notice to the parties to the dispute, and to such other States Parties as it considers appropriate, of the prescription, modification or revocation of provisional measures.
5. Pending the constitution of an arbitral tribunal to which a dispute is being submitted under this section, any court or tribunal agreed upon by the parties or, failing such agreement within two weeks from the date of the request for provisional measures, the International Tribunal for the Law of the Sea or, with respect to activities in the Area, the Seabed Disputes Chamber, may prescribe, modify or revoke provisional measures in accordance with this article if it considers that prima facie the tribunal which is to be constituted would have jurisdiction and that the urgency of the situation so requires. Once constituted, the tribunal to which the dispute has been submitted may modify, revoke or affirm those provisional measures, acting in conformity with paragraphs 1 to 4.
6. The parties to the dispute shall comply promptly with any provisional measures prescribed under this article.

Article 291
Access

1. All the dispute settlement procedures specified in this Part shall be open to States Parties.
2. The dispute settlement procedures specified in this Part shall be open to entities other than States Parties only as specifically provided for in this Convention.

Article 292

Prompt Release of Vessels and Crews

1. Where the authorities of a State Party have detained a vessel flying the flag of another State Party and it is alleged that the detaining State has not complied with the provisions of this Convention for the prompt release of the vessel or its crew upon the posting of a reasonable bond or other financial security, the question of release from detention may be submitted to any court or tribunal agreed upon by the parties or, failing such agreement within 10 days from the time of detention, to a court or tribunal accepted by the detaining State under article 287 or to the International Tribunal for the Law of the Sea, unless the parties otherwise agree.
2. The application for release may be made only by or on behalf of the flag State of the vessel.
3. The court or tribunal shall deal without delay with the application for release and shall deal only with the question of release, without prejudice to the merits of any case before the appropriate domestic forum against the vessel, its owner or its crew. The authorities of the detaining State remain competent to release the vessel or its crew at any time.
4. Upon the posting of the bond or other financial security determined by the court or tribunal, the authorities of the detaining State shall comply promptly with the decision of the court or tribunal concerning the release of the vessel or its crew.

Article 293

Applicable Law

1. A court or tribunal having jurisdiction under this section shall apply this Convention and other rules of international law not incompatible with this Convention.
2. Paragraph 1 does not prejudice the power of the court or tribunal having jurisdiction under this section to decide a case *ex aequo et bono*, if the parties so agree.

Article 294

Preliminary Proceedings

1. A court or tribunal provided for in article 287 to which an application is made in respect of a dispute referred to in article 297 shall determine at the request of a party, or may determine *proprio motu*, whether the claim constitutes an abuse of legal process or whether *prima facie* it is well founded. If the court or tribunal determines that the claim constitutes an abuse of legal process or is *prima facie* unfounded, it shall take no further action in the case.
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2. Upon receipt of the application, the court or tribunal shall immediately notify the other party or parties of the application, and shall fix a reasonable time-limit within which they may request it to make a determination in accordance with paragraph 1.
3. Nothing in this article affects the right of any party to a dispute to make preliminary objections in accordance with the applicable rules of procedure.

Article 295

Exhaustion of Local Remedies

Any dispute between States Parties concerning the interpretation or application of this Convention may be submitted to the procedures provided for in this section only after local remedies have been exhausted where this is required by international law.

Article 296

Finality and Binding Force of Decisions

1. Any decision rendered by a court or tribunal having jurisdiction under this section shall be final and shall be complied with by all the parties to the dispute.
2. Any such decision shall have no binding force except between the parties and in respect of that particular dispute.

SECTION 3

LIMITATIONS AND EXCEPTIONS TO APPLICABILITY OF SECTION 2

Article 297

Limitations on Applicability of Section 2

1. Disputes concerning the interpretation or application of this Convention with regard to the exercise by a coastal State of its sovereign rights or jurisdiction provided for in this Convention shall be subject to the procedures provided for in section 2 in the following cases:
 - (a) when it is alleged that a coastal State has acted in contravention of the provisions of this Convention in regard to the freedoms and rights of navigation, overflight or the laying of submarine cables and pipelines, or in regard to other internationally lawful uses of the sea specified in article 58;
 - (b) when it is alleged that a State in exercising the aforementioned freedoms, rights or uses has acted in contravention of this Convention or of laws or regulations adopted
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by the coastal State in conformity with this Convention and other rules of international law not incompatible with this Convention; or

- (c) when it is alleged that a coastal State has acted in contravention of specified international rules and standards for the protection and preservation of the marine environment which are applicable to the coastal State and which have been established by this Convention or through a competent international organization or diplomatic conference in accordance with this Convention.

2.

- (a) Disputes concerning the interpretation or application of the provisions of this Convention with regard to marine scientific research shall be settled in accordance with section 2, except that the coastal State shall not be obliged to accept the submission to such settlement of any dispute arising out of:

- (i) the exercise by the coastal State of a right or discretion in accordance with article 246; or

- (ii) a decision by the coastal State to order suspension or cessation of a research project in accordance with article 253.

- (b) A dispute arising from an allegation by the researching State that with respect to a specific project the coastal State is not exercising its rights under articles 246 and 253 in a manner compatible with this Convention shall be submitted, at the request of either party, to conciliation under Annex V, section 2, provided that the conciliation commission shall not call in question the exercise by the coastal State of its discretion to designate specific areas as referred to in article 246, paragraph 6, or of its discretion to withhold consent in accordance with article 246, paragraph 5.

3.

- (a) Disputes concerning the interpretation or application of the provisions of this Convention with regard to fisheries shall be settled in accordance with section 2, except that the coastal State shall not be obliged to accept the submission to such settlement of any dispute relating to its sovereign rights with respect to the living resources in the exclusive economic zone or their exercise, including its discretionary powers for determining the allowable catch, its harvesting capacity, the allocation of surpluses to other States and the terms and conditions established in its conservation and management laws and regulations.

- (b) Where no settlement has been reached by recourse to section 1 of this Part, a dispute shall be submitted to conciliation under Annex V, section 2, at the request of any party to the dispute, when it is alleged that:

- (i) a coastal State has manifestly failed to comply with its obligations to ensure through proper conservation and management measures that the maintenance of the living resources in the exclusive economic zone is not seriously endangered;
 - (ii) a coastal State has arbitrarily refused to determine, at the request of another State, the allowable catch and its capacity to harvest living resources with respect to stocks which that other State is interested in fishing; or
 - (iii) a coastal State has arbitrarily refused to allocate to any State, under articles 62, 69 and 70 and under the terms and conditions established by the coastal State consistent with this Convention, the whole or part of the surplus it has declared to exist.
- (c) In no case shall the conciliation commission substitute its discretion for that of the coastal State.
- (d) The report of the conciliation commission shall be communicated to the appropriate international organizations.
- (e) In negotiating agreements pursuant to articles 69 and 70, States Parties, unless they otherwise agree, shall include a clause on measures which they shall take in order to minimize the possibility of a disagreement concerning the interpretation or application of the agreement, and on how they should proceed if a disagreement nevertheless arises.

Article 298

Optional Exceptions to Applicability of Section 2

1. When signing, ratifying or acceding to this Convention or at any time thereafter, a State may, without prejudice to the obligations arising under section 1, declare in writing that it does not accept any one or more of the procedures provided for in section 2 with respect to one or more of the following categories of disputes:
 - (a)
 - (i) disputes concerning the interpretation or application of articles 15, 74 and 83 relating to sea boundary delimitations, or those involving historic bays or titles, provided that a State having made such a declaration shall, when such a dispute arises subsequent to the entry into force of this Convention and where no agreement within a reasonable period of time is reached in negotiations between the parties, at the request of any party to the dispute, accept submission of the matter to conciliation under Annex V, section 2; and provided further that any dispute that necessarily involves the concurrent consideration of any unsettled

dispute concerning sovereignty or other rights over continental or insular land territory shall be excluded from such submission;

(ii) after the conciliation commission has presented its report, which shall state the reasons on which it is based, the parties shall negotiate an agreement on the basis of that report; if these negotiations do not result in an agreement, the parties shall, by mutual consent, submit the question to one of the procedures provided for in section 2, unless the parties otherwise agree;

(iii) this subparagraph does not apply to any sea boundary dispute finally settled by an arrangement between the parties, or to any such dispute which is to be settled in accordance with a bilateral or multilateral agreement binding upon those parties;

(b) disputes concerning military activities, including military activities by government vessels and aircraft engaged in non-commercial service, and disputes concerning law enforcement activities in regard to the exercise of sovereign rights or jurisdiction excluded from the jurisdiction of a court or tribunal under article 297, paragraph 2 or 3;

(c) disputes in respect of which the Security Council of the United Nations is exercising the functions assigned to it by the Charter of the United Nations, unless the Security Council decides to remove the matter from its agenda or calls upon the parties to settle it by the means provided for in this Convention.

2. A State Party which has made a declaration under paragraph 1 may at any time withdraw it, or agree to submit a dispute excluded by such declaration to any procedure specified in this Convention.
3. A State Party which has made a declaration under paragraph 1 shall not be entitled to submit any dispute falling within the excepted category of disputes to any procedure in this Convention as against another State Party, without the consent of that party.
4. If one of the States Parties has made a declaration under paragraph 1(a), any other State Party may submit any dispute falling within an excepted category against the declarant party to the procedure specified in such declaration.
5. A new declaration, or the withdrawal of a declaration, does not in any way affect proceedings pending before a court or tribunal in accordance with this article, unless the parties otherwise agree.

6. Declarations and notices of withdrawal of declarations under this article shall be deposited with the Secretary-General of the United Nations, who shall transmit copies thereof to the States Parties.

Article 299

Right of the Parties to Agree Upon a Procedure

1. A dispute excluded under article 297 or excepted by a declaration made under article 298 from the dispute settlement procedures provided for in section 2 may be submitted to such procedures only by agreement of the parties to the dispute.
2. Nothing in this section impairs the right of the parties to the dispute to agree to some other procedure for the settlement of such dispute or to reach an amicable settlement.

PART XVI

GENERAL PROVISIONS

Article 300

Good Faith and Abuse of Rights

States Parties shall fulfil in good faith the obligations assumed under this Convention and shall exercise the rights, jurisdiction and freedoms recognized in this Convention in a manner which would not constitute an abuse of right.

Article 301

Peaceful Uses of the Seas

In exercising their rights and performing their duties under this Convention, States Parties shall refrain from any threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the principles of international law embodied in the Charter of the United Nations.

Article 302

Disclosure of Information

Without prejudice to the right of a State Party to resort to the procedures for the settlement of disputes provided for in this Convention, nothing in this Convention shall be deemed to require a State Party, in the fulfilment of its obligations under this Convention, to supply information the disclosure of which is contrary to the essential interests of its security.

Article 303

Archaeological and Historical Objects Found at Sea

1. States have the duty to protect objects of an archaeological and historical nature found at sea and shall cooperate for this purpose.
2. In order to control traffic in such objects, the coastal State may, in applying article 33, presume that their removal from the seabed in the zone referred to in that article without its approval would result in an infringement within its territory or territorial sea of the laws and regulations referred to in that article.
3. Nothing in this article affects the rights of identifiable owners, the law of salvage or other rules of admiralty, or laws and practices with respect to cultural exchanges.
4. This article is without prejudice to other international agreements and rules of international law regarding the protection of objects of an archaeological and historical nature.

Article 304

Responsibility and Liability for Damage

The provisions of this Convention regarding responsibility and liability for damage are without prejudice to the application of existing rules and the development of further rules regarding responsibility and liability under international law.

PART XVII

FINAL PROVISIONS

Article 305

Signature

1. This Convention shall be open for signature by:
 - (a) all States;
 - (b) Namibia, represented by the United Nations Council for Namibia;
 - (c) all self-governing associated States which have chosen that status in an act of self-determination supervised and approved by the United Nations in accordance with General Assembly resolution 1514 (XV) and which have competence over the matters

governed by this Convention, including the competence to enter into treaties in respect of those matters;

(d) all self-governing associated States which, in accordance with their respective instruments of association, have competence over the matters governed by this Convention, including the competence to enter into treaties in respect of those matters;

(e) all territories which enjoy full internal self-government, recognized as such by the United Nations, but have not attained full independence in accordance with General Assembly resolution 1514 (XV) and which have competence over the matters governed by this Convention, including the competence to enter into treaties in respect of those matters;

(f) international organizations, in accordance with Annex IX.

2. This Convention shall remain open for signature until 9 December 1984 at the Ministry of Foreign Affairs of Jamaica and also, from 1 July 1983 until 9 December 1984, at United Nations Headquarters in New York.

Article 306

Ratification and Formal Confirmation

This Convention is subject to ratification by States and the other entities referred to in article 305, paragraph 1(b), (c), (d) and (e), and to formal confirmation, in accordance with Annex IX, by the entities referred to in article 305, paragraph 1(f). The instruments of ratification and of formal confirmation shall be deposited with the Secretary-General of the United Nations.

Article 307

Accession

This Convention shall remain open for accession by States and the other entities referred to in article 305. Accession by the entities referred to in article 305, paragraph 1(f), shall be in accordance with Annex IX. The instruments of accession shall be deposited with the Secretary-General of the United Nations.

Article 308
Entry into Force

1. This Convention shall enter into force 12 months after the date of deposit of the sixtieth instrument of ratification or accession.
2. For each State ratifying or acceding to this Convention after the deposit of the sixtieth instrument of ratification or accession, the Convention shall enter into force on the thirtieth day following the deposit of its instrument of ratification or accession, subject to paragraph 1.
3. The Assembly of the Authority shall meet on the date of entry into force of this Convention and shall elect the Council of the Authority. The first Council shall be constituted in a manner consistent with the purpose of article 161 if the provisions of that article cannot be strictly applied.
4. The rules, regulations and procedures drafted by the Preparatory Commission shall apply provisionally pending their formal adoption by the Authority in accordance with Part XI.
5. The Authority and its organs shall act in accordance with resolution II of the Third United Nations Conference on the Law of the Sea relating to preparatory investment and with decisions of the Preparatory Commission taken pursuant to that resolution.

Article 309
Reservations and Exceptions

No reservations or exceptions may be made to this Convention unless expressly permitted by other articles of this Convention.

Article 310
Declarations and statements

Article 309 does not preclude a State, when signing, ratifying or acceding to this Convention, from making declarations or statements, however phrased or named, with a view, *inter alia*, to the harmonization of its laws and regulations with the provisions of this Convention, provided that such declarations or statements do not purport to exclude or to modify the legal effect of the provisions of this Convention in their application to that State.

Article 311

Relation to Other Conventions and International Agreements

1. This Convention shall prevail, as between States Parties, over the Geneva Conventions on the Law of the Sea of 29 April 1958.
2. This Convention shall not alter the rights and obligations of States Parties which arise from other agreements compatible with this Convention and which do not affect the enjoyment by other States Parties of their rights or the performance of their obligations under this Convention.
3. Two or more States Parties may conclude agreements modifying or suspending the operation of provisions of this Convention, applicable solely to the relations between them, provided that such agreements do not relate to a provision derogation from which is incompatible with the effective execution of the object and purpose of this Convention, and provided further that such agreements shall not affect the application of the basic principles embodied herein, and that the provisions of such agreements do not affect the enjoyment by other States Parties of their rights or the performance of their obligations under this Convention.
4. States Parties intending to conclude an agreement referred to in paragraph 3 shall notify the other States Parties through the depositary of this Convention of their intention to conclude the agreement and of the modification or suspension for which it provides.
5. This article does not affect international agreements expressly permitted or preserved by other articles of this Convention.
6. States Parties agree that there shall be no amendments to the basic principle relating to the common heritage of mankind set forth in article 136 and that they shall not be party to any agreement in derogation thereof.

Article 312

Amendment

1. After the expiry of a period of 10 years from the date of entry into force of this Convention, a State Party may, by written communication addressed to the Secretary-General of the United Nations, propose specific amendments to this Convention, other than those relating to activities in the Area, and request the convening of a conference to consider such proposed amendments. The Secretary-General shall circulate such communication to all States Parties. If, within 12 months from the date of the circulation of the communication, not less than one half of the States Parties reply favourably to the request, the Secretary-General shall convene the conference.
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2. The decision-making procedure applicable at the amendment conference shall be the same as that applicable at the Third United Nations Conference on the Law of the Sea unless otherwise decided by the conference. The conference should make every effort to reach agreement on any amendments by way of consensus and there should be no voting on them until all efforts at consensus have been exhausted.

Article 313

Amendment by Simplified Procedure

1. A State Party may, by written communication addressed to the Secretary-General of the United Nations, propose an amendment to this Convention, other than an amendment relating to activities in the Area, to be adopted by the simplified procedure set forth in this article without convening a conference. The Secretary-General shall circulate the communication to all States Parties.
2. If, within a period of 12 months from the date of the circulation of the communication, a State Party objects to the proposed amendment or to the proposal for its adoption by the simplified procedure, the amendment shall be considered rejected. The Secretary-General shall immediately notify all States Parties accordingly.
3. If, 12 months from the date of the circulation of the communication, no State Party has objected to the proposed amendment or to the proposal for its adoption by the simplified procedure, the proposed amendment shall be considered adopted. The Secretary-General shall notify all States Parties that the proposed amendment has been adopted.

Article 314

**Amendments to the Provisions of this Convention Relating Exclusively to
Activities in the Area**

1. A State Party may, by written communication addressed to the Secretary-General of the Authority, propose an amendment to the provisions of this Convention relating exclusively to activities in the Area, including Annex VI, section 4. The Secretary-General shall circulate such communication to all States Parties. The proposed amendment shall be subject to approval by the Assembly following its approval by the Council. Representatives of States Parties in those organs shall have full powers to consider and approve the proposed amendment. The proposed amendment as approved by the Council and the Assembly shall be considered adopted.
2. Before approving any amendment under paragraph 1, the Council and the Assembly shall ensure that it does not prejudice the system of exploration for and exploitation of the resources of the Area, pending the Review Conference in accordance with article 155.

Article 315

Signature, Ratification of, Accession to and Authentic Texts of Amendments

1. Once adopted, amendments to this Convention shall be open for signature by States Parties for 12 months from the date of adoption, at United Nations Headquarters in New York, unless otherwise provided in the amendment itself.
2. Articles 306, 307 and 320 apply to all amendments to this Convention.

Article 316

Entry into Force of Amendments

1. Amendments to this Convention, other than those referred to in paragraph 5, shall enter into force for the States Parties ratifying or acceding to them on the thirtieth day following the deposit of instruments of ratification or accession by two thirds of the States Parties or by 60 States Parties, whichever is greater. Such amendments shall not affect the enjoyment by other States Parties of their rights or the performance of their obligations under this Convention.
2. An amendment may provide that a larger number of ratifications or accessions shall be required for its entry into force than are required by this article.
3. For each State Party ratifying or acceding to an amendment referred to in paragraph 1 after the deposit of the required number of instruments of ratification or accession, the amendment shall enter into force on the thirtieth day following the deposit of its instrument of ratification or accession.
4. A State which becomes a Party to this Convention after the entry into force of an amendment in accordance with paragraph 1 shall, failing an expression of a different intention by that State:
 - (a) be considered as a Party to this Convention as so amended; and
 - (b) be considered as a Party to the unamended Convention in relation to any State Party not bound by the amendment.
5. Any amendment relating exclusively to activities in the Area and any amendment to Annex VI shall enter into force for all States Parties one year following the deposit of instruments of ratification or accession by three fourths of the States Parties.

6. A State which becomes a Party to this Convention after the entry into force of amendments in accordance with paragraph 5 shall be considered as a Party to this Convention as so amended.

Article 317
Denunciation

1. A State Party may, by written notification addressed to the Secretary-General of the United Nations, denounce this Convention and may indicate its reasons. Failure to indicate reasons shall not affect the validity of the denunciation. The denunciation shall take effect one year after the date of receipt of the notification, unless the notification specifies a later date.
2. A State shall not be discharged by reason of the denunciation from the financial and contractual obligations which accrued while it was a Party to this Convention, nor shall the denunciation affect any right, obligation or legal situation of that State created through the execution of this Convention prior to its termination for that State.
3. The denunciation shall not in any way affect the duty of any State Party to fulfil any obligation embodied in this Convention to which it would be subject under international law independently of this Convention.

Article 318
Status of Annexes

The Annexes form an integral part of this Convention and, unless expressly provided otherwise, a reference to this Convention or to one of its Parts includes a reference to the Annexes relating thereto.

Article 319
Depositary

1. The Secretary-General of the United Nations shall be the depositary of this Convention and amendments thereto.
2. In addition to his functions as depositary, the Secretary-General shall:
 - (a) report to all States Parties, the Authority and competent international organizations on issues of a general nature that have arisen with respect to this Convention;

- (b) notify the Authority of ratifications and formal confirmations of and accessions to this Convention and amendments thereto, as well as of denunciations of this Convention;
 - (c) notify States Parties of agreements in accordance with article 311, paragraph 4;
 - (d) circulate amendments adopted in accordance with this Convention to States Parties for ratification or accession;
 - (e) convene necessary meetings of States Parties in accordance with this Convention.
- 3.
- (a) The Secretary-General shall also transmit to the observers referred to in article 156:
 - (i) reports referred to in paragraph 2(a);
 - (ii) notifications referred to in paragraph 2(b) and (c); and
 - (iii) texts of amendments referred to in paragraph 2(d), for their information.
 - (b) The Secretary-General shall also invite those observers to participate as observers at meetings of States Parties referred to in paragraph 2(e).

Article 320
Authentic texts

The original of this Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall, subject to article 305, paragraph 2, be deposited with the Secretary-General of the United Nations.

IN WITNESS WHEREOF, the undersigned Plenipotentiaries, being duly authorized thereto, have signed this Convention.

DONE AT MONTEGO BAY, this tenth day of December, one thousand nine hundred and eighty-two.

ANNEX I
HIGHLY MIGRATORY SPECIES

1. Albacore tuna: *Thunnus alalunga*.
2. Bluefin tuna: *Thunnus thynnus*.
3. Bigeye tuna: *Thunnus obesus*.
4. Skipjack tuna: *Katsuwonus pelamis*.
5. Yellowfin tuna: *Thunnus albacares*.
6. Blackfin tuna: *Thunnus atlanticus*.
7. Little tuna: *Euthynnus alletteratus*; *Euthynnus affinis*.
8. Southern bluefin tuna: *Thunnus maccoyii*.
9. Frigate mackerel: *Auxis thazard*; *Auxis rochei*.
10. Pomfrets: Family *Bramidae*.
11. Marlins: *Tetrapturus angustirostris*; *Tetrapturus belone*; *Tetrapturus pfluegeri*; *Tetrapturus albidus*; *Tetrapturus audax*; *Tetrapturus georgei*; *Makaira mazara*; *Makaira indica*; *Makaira nigricans*.
12. Sail-fishes: *Istiophorus platypterus*; *Istiophorus albicans*.
13. Swordfish: *Xiphias gladius*.
14. Sauries: *Scomberesox saurus*; *Cololabis saira*; *Cololabis adocetus*; *Scomberesox saurus scombroides*.
15. Dolphin: *Coryphaena hippurus*; *Coryphaena equiselis*.
16. Oceanic sharks: *Hexanchus griseus*; *Cetorhinus maximus*; Family *Alopiidae*; *Rhincodon typus*; Family *Carcharhinidae*; Family *Sphyrnidae*; Family *Isurida*.
17. Cetaceans: Family *Physeteridae*; Family *Balaenopteridae*; Family *Balaenidae*; Family *Eschrichtiidae*; Family *Monodontidae*; Family *Ziphiidae*; Family *Delphinidae*.

ANNEX II
COMMISSION ON THE LIMITS OF THE CONTINENTAL SHELF

Article 1

In accordance with the provisions of article 76, a Commission on the Limits of the Continental Shelf beyond 200 nautical miles shall be established in conformity with the following articles.

Article 2

1. The Commission shall consist of 21 members who shall be experts in the field of geology, geophysics or hydrography, elected by States Parties to this Convention from among their

nationals, having due regard to the need to ensure equitable geographical representation, who shall serve in their personal capacities.

2. The initial election shall be held as soon as possible but in any case within 18 months after the date of entry into force of this Convention. At least three months before the date of each election, the Secretary-General of the United Nations shall address a letter to the States Parties, inviting the submission of nominations, after appropriate regional consultations, within three months. The Secretary-General shall prepare a list in alphabetical order of all persons thus nominated and shall submit it to all the States Parties.
3. Elections of the members of the Commission shall be held at a meeting of States Parties convened by the Secretary-General at United Nations Headquarters. At that meeting, for which two thirds of the States Parties shall constitute a quorum, the persons elected to the Commission shall be those nominees who obtain a two-thirds majority of the votes of the representatives of States Parties present and voting. Not less than three members shall be elected from each geographical region.
4. The members of the Commission shall be elected for a term of five years. They shall be eligible for re-election.
5. The State Party which submitted the nomination of a member of the Commission shall defray the expenses of that member while in performance of Commission duties. The coastal State concerned shall defray the expenses incurred in respect of the advice referred to in article 3, paragraph 1(b), of this Annex. The secretariat of the Commission shall be provided by the Secretary-General of the United Nations.

Article 3

1. The functions of the Commission shall be:
 - (a) to consider the data and other material submitted by coastal States concerning the outer limits of the continental shelf in areas where those limits extend beyond 200 nautical miles, and to make recommendations in accordance with article 76 and the Statement of Understanding adopted on 29 August 1980 by the Third United Nations Conference on the Law of the Sea;
 - (b) to provide scientific and technical advice, if requested by the coastal State concerned during the preparation of the data referred to in subparagraph (a).
 2. The Commission may cooperate, to the extent considered necessary and useful, with the Intergovernmental Oceanographic Commission of UNESCO, the International
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BRUNEI DARUSSALAM TREATY SERIES

United Nations Convention on the Law of the Sea

Hydrographic Organization and other competent international organizations with a view to exchanging scientific and technical information which might be of assistance in discharging the Commission's responsibilities.

Article 4

Where a coastal State intends to establish, in accordance with article 76, the outer limits of its continental shelf beyond 200 nautical miles, it shall submit particulars of such limits to the Commission along with supporting scientific and technical data as soon as possible but in any case within 10 years of the entry into force of this Convention for that State. The coastal State shall at the same time give the names of any Commission members who have provided it with scientific and technical advice.

Article 5

Unless the Commission decides otherwise, the Commission shall function by way of sub-commissions composed of seven members, appointed in a balanced manner taking into account the specific elements of each submission by a coastal State. Nationals of the coastal State making the submission who are members of the Commission and any Commission member who has assisted a coastal State by providing scientific and technical advice with respect to the delineation shall not be a member of the sub-commission dealing with that submission but has the right to participate as a member in the proceedings of the Commission concerning the said submission. The coastal State which has made a submission to the Commission may send its representatives to participate in the relevant proceedings without the right to vote.

Article 6

1. The sub-commission shall submit its recommendations to the Commission.
2. Approval by the Commission of the recommendations of the sub-commission shall be by a majority of two thirds of Commission members present and voting.
3. The recommendations of the Commission shall be submitted in writing to the coastal State which made the submission and to the Secretary-General of the United Nations.

Article 7

Coastal States shall establish the outer limits of the continental shelf in conformity with the provisions of article 76, paragraph 8, and in accordance with the appropriate national procedures.

Article 8

In the case of disagreement by the coastal State with the recommendations of the Commission, the coastal State shall, within a reasonable time, make a revised or new submission to the Commission.

Article 9

The actions of the Commission shall not prejudice matters relating to delimitation of boundaries between States with opposite or adjacent coasts.

ANNEX III

BASIC CONDITIONS OF PROSPECTING, EXPLORATION AND EXPLOITATION

Article 1

Title to Minerals

Title to minerals shall pass upon recovery in accordance with this Convention.

Article 2

Prospecting

1.
 - (a) The Authority shall encourage prospecting in the Area.
 - (b) Prospecting shall be conducted only after the Authority has received a satisfactory written undertaking that the proposed prospector will comply with this Convention and the relevant rules, regulations and procedures of the Authority concerning cooperation in the training programmes referred to in articles 143 and 144 and the protection of the marine environment, and will accept verification by the Authority of compliance therewith. The proposed prospector shall, at the same time, notify the Authority of the approximate area or areas in which prospecting is to be conducted.
 - (c) Prospecting may be conducted simultaneously by more than one prospector in the same area or areas.
2. Prospecting shall not confer on the prospector any rights with respect to resources. A prospector may, however, recover a reasonable quantity of minerals to be used for testing.

Article 3

Exploration and Exploitation

1. The Enterprise, States Parties, and the other entities referred to in article 153, paragraph 2(b), may apply to the Authority for approval of plans of work for activities in the Area.
2. The Enterprise may apply with respect to any part of the Area, but applications by others with respect to reserved areas are subject to the additional requirements of article 9 of this Annex.
3. Exploration and exploitation shall be carried out only in areas specified in plans of work referred to in article 153, paragraph 3, and approved by the Authority in accordance with this Convention and the relevant rules, regulations and procedures of the Authority.
4. Every approved plan of work shall:
 - (a) be in conformity with this Convention and the rules, regulations and procedures of the Authority;
 - (b) provide for control by the Authority of activities in the Area in accordance with article 153, paragraph 4;
 - (c) confer on the operator, in accordance with the rules, regulations and procedures of the Authority, the exclusive right to explore for and exploit the specified categories of resources in the area covered by the plan of work. If, however, the applicant presents for approval a plan of work covering only the stage of exploration or the stage of exploitation, the approved plan of work shall confer such exclusive right with respect to that stage only.
5. Upon its approval by the Authority, every plan of work, except those presented by the Enterprise, shall be in the form of a contract concluded between the Authority and the applicant or applicants.

Article 4

Qualifications of Applicants

1. Applicants, other than the Enterprise, shall be qualified if they have the nationality or control and sponsorship required by article 153, paragraph 2(b), and if they follow the procedures and meet the qualification standards set forth in the rules, regulations and procedures of the Authority.
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BRUNEI DARUSSALAM TREATY SERIES

United Nations Convention on the Law of the Sea

2. Except as provided in paragraph 6, such qualification standards shall relate to the financial and technical capabilities of the applicant and his performance under any previous contracts with the Authority.
3. Each applicant shall be sponsored by the State Party of which it is a national unless the applicant has more than one nationality, as in the case of a partnership or consortium of entities from several States, in which event all States Parties involved shall sponsor the application, or unless the applicant is effectively controlled by another State Party or its nationals, in which event both States Parties shall sponsor the application. The criteria and procedures for implementation of the sponsorship requirements shall be set forth in the rules, regulations and procedures of the Authority.
4. The sponsoring State or States shall, pursuant to article 139, have the responsibility to ensure, within their legal systems, that a contractor so sponsored shall carry out activities in the Area in conformity with the terms of its contract and its obligations under this Convention. A sponsoring State shall not, however, be liable for damage caused by any failure of a contractor sponsored by it to comply with its obligations if that State Party has adopted laws and regulations and taken administrative measures which are, within the framework of its legal system, reasonably appropriate for securing compliance by persons under its jurisdiction.
5. The procedures for assessing the qualifications of States Parties which are applicants shall take into account their character as States.
6. The qualification standards shall require that every applicant, without exception, shall as part of his application undertake:
 - (a) to accept as enforceable and comply with the applicable obligations created by the provisions of Part XI, the rules, regulations and procedures of the Authority, the decisions of the organs of the Authority and terms of his contracts with the Authority;
 - (b) to accept control by the Authority of activities in the Area, as authorized by this Convention;
 - (c) to provide the Authority with a written assurance that his obligations under the contract will be fulfilled in good faith;
 - (d) to comply with the provisions on the transfer of technology set forth in article 5 of this Annex.

Article 5
Transfer of Technology

1. When submitting a plan of work, every applicant shall make available to the Authority a general description of the equipment and methods to be used in carrying out activities in the Area, and other relevant non-proprietary information about the characteristics of such technology and information as to where such technology is available.
 2. Every operator shall inform the Authority of revisions in the description and information made available pursuant to paragraph 1 whenever a substantial technological change or innovation is introduced.
 3. Every contract for carrying out activities in the Area shall contain the following undertakings by the contractor:
 - (a) to make available to the Enterprise on fair and reasonable commercial terms and conditions, whenever the Authority so requests, the technology which he uses in carrying out activities in the Area under the contract, which the contractor is legally entitled to transfer. This shall be done by means of licences or other appropriate arrangements which the contractor shall negotiate with the Enterprise and which shall be set forth in a specific agreement supplementary to the contract. This undertaking may be invoked only if the Enterprise finds that it is unable to obtain the same or equally efficient and useful technology on the open market on fair and reasonable commercial terms and conditions;
 - (b) to obtain a written assurance from the owner of any technology used in carrying out activities in the Area under the contract, which is not generally available on the open market and which is not covered by subparagraph (a), that the owner will, whenever the Authority so requests, make that technology available to the Enterprise under licence or other appropriate arrangements and on fair and reasonable commercial terms and conditions, to the same extent as made available to the contractor. If this assurance is not obtained, the technology in question shall not be used by the contractor in carrying out activities in the Area;
 - (c) to acquire from the owner by means of an enforceable contract, upon the request of the Enterprise and if it is possible to do so without substantial cost to the contractor, the legal right to transfer to the Enterprise any technology used by the contractor, in carrying out activities in the Area under the contract, which the contractor is otherwise not legally entitled to transfer and which is not generally available on the open market. In cases where there is a substantial corporate relationship between the contractor and the owner of the technology, the closeness of this relationship and the degree of control or influence shall be relevant to the determination whether all feasible measures have been taken to acquire such a right. In cases where the
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contractor exercises effective control over the owner, failure to acquire from the owner the legal right shall be considered relevant to the contractor's qualification for any subsequent application for approval of a plan of work;

- (d) to facilitate, upon the request of the Enterprise, the acquisition by the Enterprise of any technology covered by subparagraph (b), under licence or other appropriate arrangements and on fair and reasonable commercial terms and conditions, if the Enterprise decides to negotiate directly with the owner of the technology;
- (e) to take the same measures as are prescribed in subparagraphs (a), (b), (c) and (d) for the benefit of a developing State or group of developing States which has applied for a contract under article 9 of this Annex, provided that these measures shall be limited to the exploitation of the part of the area proposed by the contractor which has been reserved pursuant to article 8 of this Annex and provided that activities under the contract sought by the developing State or group of developing States would not involve transfer of technology to a third State or the nationals of a third State. The obligation under this provision shall only apply with respect to any given contractor where technology has not been requested by the Enterprise or transferred by that contractor to the Enterprise.
4. Disputes concerning undertakings required by paragraph 3, like other provisions of the contracts, shall be subject to compulsory settlement in accordance with Part XI and, in cases of violation of these undertakings, suspension or termination of the contract or monetary penalties may be ordered in accordance with article 18 of this Annex. Disputes as to whether offers made by the contractor are within the range of fair and reasonable commercial terms and conditions may be submitted by either party to binding commercial arbitration in accordance with the UNCITRAL Arbitration Rules or such other arbitration rules as may be prescribed in the rules, regulations and procedures of the Authority. If the finding is that the offer made by the contractor is not within the range of fair and reasonable commercial terms and conditions, the contractor shall be given 45 days to revise his offer to bring it within that range before the Authority takes any action in accordance with article 18 of this Annex.
5. If the Enterprise is unable to obtain on fair and reasonable commercial terms and conditions appropriate technology to enable it to commence in a timely manner the recovery and processing of minerals from the Area, either the Council or the Assembly may convene a group of States Parties composed of those which are engaged in activities in the Area, those which have sponsored entities which are engaged in activities in the Area and other States Parties having access to such technology. This group shall consult together and shall take effective measures to ensure that such technology is made available to the Enterprise on fair and reasonable commercial terms and conditions. Each such State Party shall take all feasible measures to this end within its own legal system.

6. In the case of joint ventures with the Enterprise, transfer of technology will be in accordance with the terms of the joint venture agreement.
7. The undertakings required by paragraph 3 shall be included in each contract for the carrying out of activities in the Area until 10 years after the commencement of commercial production by the Enterprise, and may be invoked during that period.
8. For the purposes of this article, "technology" means the specialized equipment and technical know-how, including manuals, designs, operating instructions, training and technical advice and assistance, necessary to assemble, maintain and operate a viable system and the legal right to use these items for that purpose on a non-exclusive basis.

Article 6

Approval of Plans of Work

1. Six months after the entry into force of this Convention, and thereafter each fourth month, the Authority shall take up for consideration proposed plans of work.
 2. When considering an application for approval of a plan of work in the form of a contract, the Authority shall first ascertain whether:
 - (a) the applicant has complied with the procedures established for applications in accordance with article 4 of this Annex and has given the Authority the undertakings and assurances required by that article. In cases of non-compliance with these procedures or in the absence of any of these undertakings and assurances, the applicant shall be given 45 days to remedy these defects;
 - (b) the applicant possesses the requisite qualifications provided for in article 4 of this Annex.
 3. All proposed plans of work shall be taken up in the order in which they are received. The proposed plans of work shall comply with and be governed by the relevant provisions of this Convention and the rules, regulations and procedures of the Authority, including those on operational requirements, financial contributions and the undertakings concerning the transfer of technology. If the proposed plans of work conform to these requirements, the Authority shall approve them provided that they are in accordance with the uniform and non-discriminatory requirements set forth in the rules, regulations and procedures of the Authority, unless:
 - (a) part or all of the area covered by the proposed plan of work is included in an approved plan of work or a previously submitted proposed plan of work which has not yet been finally acted on by the Authority;
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- (b) part or all of the area covered by the proposed plan of work is disapproved by the Authority pursuant to article 162, paragraph 2(x); or
- (c) the proposed plan of work has been submitted or sponsored by a State Party which already holds:
 - (i) plans of work for exploration and exploitation of polymetallic nodules in non-reserved areas that, together with either part of the area covered by the application for a plan of work, exceed in size 30 per cent of a circular area of 400,000 square kilometres surrounding the centre of either part of the area covered by the proposed plan of work;
 - (ii) plans of work for the exploration and exploitation of polymetallic nodules in non-reserved areas which, taken together, constitute 2 per cent of the total seabed area which is not reserved or disapproved for exploitation pursuant to article 162, paragraph (2)(x).
- 4. For the purpose of the standard set forth in paragraph 3(c), a plan of work submitted by a partnership or consortium shall be counted on a *pro rata* basis among the sponsoring States Parties involved in accordance with article 4, paragraph 3, of this Annex. The Authority may approve plans of work covered by paragraph 3(c) if it determines that such approval would not permit a State Party or entities sponsored by it to monopolize the conduct of activities in the Area or to preclude other States Parties from activities in the Area.
- 5. Notwithstanding paragraph 3(a), after the end of the interim period specified in article 151, paragraph 3, the Authority may adopt by means of rules, regulations and procedures other procedures and criteria consistent with this Convention for deciding which applicants shall have plans of work approved in cases of selection among applicants for a proposed area. These procedures and criteria shall ensure approval of plans of work on an equitable and non-discriminatory basis.

Article 7

Selection Among Applicants for Production Authorizations

- 1. Six months after the entry into force of this Convention, and thereafter each fourth month, the Authority shall take up for consideration applications for production authorizations submitted during the immediately preceding period. The Authority shall issue the authorizations applied for if all such applications can be approved without exceeding the production limitation or contravening the obligations of the Authority under a commodity agreement or arrangement to which it has become a party, as provided in article 151.

2. When a selection must be made among applicants for production authorizations because of the production limitation set forth in article 151, paragraphs 2 to 7, or because of the obligations of the Authority under a commodity agreement or arrangement to which it has become a party, as provided for in article 151, paragraph 1, the Authority shall make the selection on the basis of objective and non-discriminatory standards set forth in its rules, regulations and procedures.
3. In the application of paragraph 2, the Authority shall give priority to those applicants which:
 - (a) give better assurance of performance, taking into account their financial and technical qualifications and their performance, if any, under previously approved plans of work;
 - (b) provide earlier prospective financial benefits to the Authority, taking into account when commercial production is scheduled to begin;
 - (c) have already invested the most resources and effort in prospecting or exploration.
4. Applicants which are not selected in any period shall have priority in subsequent periods until they receive a production authorization.
5. Selection shall be made taking into account the need to enhance opportunities for all States Parties, irrespective of their social and economic systems or geographical locations so as to avoid discrimination against any State or system, to participate in activities in the Area and to prevent monopolization of those activities.
6. Whenever fewer reserved areas than non-reserved areas are under exploitation, applications for production authorizations with respect to reserved areas shall have priority.
7. The decisions referred to in this article shall be taken as soon as possible after the close of each period.

Article 8
Reservation of Areas

Each application, other than those submitted by the Enterprise or by any other entities for reserved areas, shall cover a total area, which need not be a single continuous area, sufficiently large and of sufficient estimated commercial value to allow two mining operations. The applicant shall indicate the coordinates dividing the area into two parts of equal estimated commercial value and submit all the data obtained by him with respect to both parts. Without prejudice to the powers of the Authority pursuant to article 17 of this

Annex, the data to be submitted concerning polymetallic nodules shall relate to mapping, sampling, the abundance of nodules, and their metal content. Within 45 days of receiving such data, the Authority shall designate which part is to be reserved solely for the conduct of activities by the Authority through the Enterprise or in association with developing States. This designation may be deferred for a further period of 45 days if the Authority requests an independent expert to assess whether all data required by this article has been submitted. The area designated shall become a reserved area as soon as the plan of work for the non-reserved area is approved and the contract is signed.

Article 9

Activities in Reserved Areas

1. The Enterprise shall be given an opportunity to decide whether it intends to carry out activities in each reserved area. This decision may be taken at any time, unless a notification pursuant to paragraph 4 is received by the Authority, in which event the Enterprise shall take its decision within a reasonable time. The Enterprise may decide to exploit such areas in joint ventures with the interested State or entity.
2. The Enterprise may conclude contracts for the execution of part of its activities in accordance with Annex IV, article 12. It may also enter into joint ventures for the conduct of such activities with any entities which are eligible to carry out activities in the Area pursuant to article 153, paragraph 2(b). When considering such joint ventures, the Enterprise shall offer to States Parties which are developing States and their nationals the opportunity of effective participation.
3. The Authority may prescribe, in its rules, regulations and procedures, substantive and procedural requirements and conditions with respect to such contracts and joint ventures.
4. Any State Party which is a developing State or any natural or juridical person sponsored by it and effectively controlled by it or by other developing State which is a qualified applicant, or any group of the foregoing, may notify the Authority that it wishes to submit a plan of work pursuant to article 6 of this Annex with respect to a reserved area. The plan of work shall be considered if the Enterprise decides, pursuant to paragraph 1, that it does not intend to carry out activities in that area.

Article 10

Preference and Priority Among Applicants

An operator who has an approved plan of work for exploration only, as provided in article 3, paragraph 4(c), of this Annex shall have a preference and a priority among applicants for a plan of work covering exploitation of the same area and resources. However, such preference or priority may be withdrawn if the operator's performance has not been satisfactory.

Article 11
Joint Arrangements

1. Contracts may provide for joint arrangements between the contractor and the Authority through the Enterprise, in the form of joint ventures or production sharing, as well as any other form of joint arrangement, which shall have the same protection against revision, suspension or termination as contracts with the Authority.
2. Contractors entering into such joint arrangements with the Enterprise may receive financial incentives as provided for in article 13 of this Annex.
3. Partners in joint ventures with the Enterprise shall be liable for the payments required by article 13 of this Annex to the extent of their share in the joint ventures, subject to financial incentives as provided for in that article.

Article 12
Activities Carried Out By the Enterprise

1. Activities in the Area carried out by the Enterprise pursuant to article 153, paragraph 2(a), shall be governed by Part XI, the rules, regulations and procedures of the Authority and its relevant decisions.
2. Any plan of work submitted by the Enterprise shall be accompanied by evidence supporting its financial and technical capabilities.

Article 13
Financial Terms of Contracts

1. In adopting rules, regulations and procedures concerning the financial terms of a contract between the Authority and the entities referred to in article 153, paragraph 2(b), and in negotiating those financial terms in accordance with Part XI and those rules, regulations and procedures, the Authority shall be guided by the following objectives:
 - (a) to ensure optimum revenues for the Authority from the proceeds of commercial production;
 - (b) to attract investments and technology to the exploration and exploitation of the Area;
 - (c) to ensure equality of financial treatment and comparable financial obligations for contractors;

- (d) to provide incentives on a uniform and non-discriminatory basis for contractors to undertake joint arrangements with the Enterprise and developing States or their nationals, to stimulate the transfer of technology thereto, and to train the personnel of the Authority and of developing States;
 - (e) to enable the Enterprise to engage in seabed mining effectively at the same time as the entities referred to in article 153, paragraph 2(b); and
 - (f) to ensure that, as a result of the financial incentives provided to contractors under paragraph 14, under the terms of contracts reviewed in accordance with article 19 of this Annex or under the provisions of article 11 of this Annex with respect to joint ventures, contractors are not subsidized so as to be given an artificial competitive advantage with respect to land-based miners.
2. A fee shall be levied for the administrative cost of processing an application for approval of a plan of work in the form of a contract and shall be fixed at an amount of \$US 500,000 per application. The amount of the fee shall be reviewed from time to time by the Council in order to ensure that it covers the administrative cost incurred. If such administrative cost incurred by the Authority in processing an application is less than the fixed amount, the Authority shall refund the difference to the applicant.
 3. A contractor shall pay an annual fixed fee of \$US 1 million from the date of entry into force of the contract. If the approved date of commencement of commercial production is postponed because of a delay in issuing the production authorization, in accordance with article 151, the annual fixed fee shall be waived for the period of postponement. From the date of commencement of commercial production, the contractor shall pay either the production charge or the annual fixed fee, whichever is greater.
 4. Within a year of the date of commencement of commercial production, in conformity with paragraph 3, a contractor shall choose to make his financial contribution to the Authority by either:
 - (a) paying a production charge only; or
 - (b) paying a combination of a production charge and a share of net proceeds.
 5.
 - (a) If a contractor chooses to make his financial contribution to the Authority by paying a production charge only, it shall be fixed at a percentage of the market value of the processed metals produced from the polymetallic nodules recovered from the area covered by the contract. This percentage shall be fixed as follows:
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- (i) years 1-10 of commercial production 5 per cent
 - (ii) years 11 to the end of commercial production 12 per cent
 - (b) The said market value shall be the product of the quantity of the processed metals produced from the polymetallic nodules extracted from the area covered by the contract and the average price for those metals during the relevant accounting year, as defined in paragraphs 7 and 8.
6. If a contractor chooses to make his financial contribution to the Authority by paying a combination of a production charge and a share of net proceeds, such payments shall be determined as follows:
- (a) The production charge shall be fixed at a percentage of the market value, determined in accordance with subparagraph (b), of the processed metals produced from the polymetallic nodules recovered from the area covered by the contract. This percentage shall be fixed as follows:
 - (i) first period of commercial production 2 per cent
 - (ii) second period of commercial production 4 per cent
- If, in the second period of commercial production, as defined in subparagraph (d), the return on investment in any accounting year as defined in subparagraph (m) falls below 15 per cent as a result of the payment of the production charge at 4 per cent, the production charge shall be 2 per cent instead of 4 per cent in that accounting year.
- (b) The said market value shall be the product of the quantity of the processed metals produced from the polymetallic nodules recovered from the area covered by the contract and the average price for those metals during the relevant accounting year as defined in paragraphs 7 and 8.
 - (c)
 - (i) The Authority's share of net proceeds shall be taken out of that portion of the contractor's net proceeds which is attributable to the mining of the resources of the area covered by the contract, referred to hereinafter as attributable net proceeds.
 - (ii) The Authority's share of attributable net proceeds shall be determined in accordance with the following incremental schedule:
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BRUNEI DARUSSALAM TREATY SERIES

United Nations Convention on the Law of the Sea

Portion of attributable net proceeds

Share of the Authority

	First Period of Commercial Production	Second Period of Commercial Production
That portion representing a return on investment which is greater than 0 per cent but less than 10 per cent	35 per cent	40 per cent
That portion representing a return on investment which is 10 per cent or greater but less than 20 per cent	42.5 per cent	50 per cent
That portion representing a return on investment which is 20 per cent or greater	50 per cent	70 per cent

(d)

- (i) The first period of commercial production referred to in subparagraphs (a) and (c) shall commence in the first accounting year of commercial production and terminate in the accounting year in which the contractor's development costs with interest on the unrecovered portion thereof are fully recovered by his cash surplus, as follows:

In the first accounting year during which development costs are incurred, unrecovered development costs shall equal the development costs less cash surplus in that year. In each subsequent accounting year, unrecovered development costs shall equal the unrecovered development costs at the end of the preceding accounting year, plus interest thereon at the rate of 10 per cent per annum, plus development costs incurred in the current accounting year and less contractor's cash surplus in the current accounting year. The accounting year in which unrecovered development costs become zero for the first time shall be the

accounting year in which the contractor's development costs with interest on the unrecovered portion thereof are fully recovered by his cash surplus. The contractor's cash surplus in any accounting year shall be his gross proceeds less his operating costs and less his payments to the Authority under subparagraph (c).

- (ii) The second period of commercial production shall commence in the accounting year following the termination of the first period of commercial production and shall continue until the end of the contract.
- (e) "Attributable net proceeds" means the product of the contractor's net proceeds and the ratio of the development costs in the mining sector to the contractor's development costs. If the contractor engages in mining, transporting polymetallic nodules and production primarily of three processed metals, namely, cobalt, copper and nickel, the amount of attributable net proceeds shall not be less than 25 per cent of the contractor's net proceeds. Subject to subparagraph (n), in all other cases, including those where the contractor engages in mining, transporting polymetallic nodules, and production primarily of four processed metals, namely, cobalt, copper, manganese and nickel, the Authority may, in its rules, regulations and procedures, prescribe appropriate floors which shall bear the same relationship to each case as the 25 per cent floor does to the three-metal case.
- (f) "Contractor's net proceeds" means the contractor's gross proceeds less his operating costs and less the recovery of his development costs as set out in subparagraph (j).
- (g)
- (i) If the contractor engages in mining, transporting polymetallic nodules and production of processed metals, "contractor's gross proceeds" means the gross revenues from the sale of the processed metals and any other monies deemed reasonably attributable to operations under the contract in accordance with the financial rules, regulations and procedures of the Authority.
- (ii) In all cases other than those specified in subparagraphs (g)(i) and (n)(iii), "contractor's gross proceeds" means the gross revenues from the sale of the semi-processed metals from the polymetallic nodules recovered from the area covered by the contract, and any other monies deemed reasonably attributable to operations under the contract in accordance with the financial rules, regulations and procedures of the Authority.
- (h) "Contractor's development costs" means:
- (i) all expenditures incurred prior to the commencement of commercial production which are directly related to the development of the productive capacity of the area covered by the contract and the activities related thereto for operations under
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the contract in all cases other than that specified in subparagraph (n), in conformity with generally recognized accounting principles, including, inter alia, costs of machinery, equipment, ships, processing plant, construction, buildings, land, roads, prospecting and exploration of the area covered by the contract, research and development, interest, required leases, licences and fees; and

- (ii) expenditures similar to those set forth in (i) above incurred subsequent to the commencement of commercial production and necessary to carry out the plan of work, except those chargeable to operating costs.
- (i) The proceeds from the disposal of capital assets and the market value of those capital assets which are no longer required for operations under the contract and which are not sold shall be deducted from the contractor's development costs during the relevant accounting year. When these deductions exceed the contractor's development costs the excess shall be added to the contractor's gross proceeds.
- (j) The contractor's development costs incurred prior to the commencement of commercial production referred to in subparagraphs (h)(i) and (n)(iv) shall be recovered in 10 equal annual instalments from the date of commencement of commercial production. The contractor's development costs incurred subsequent to the commencement of commercial production referred to in subparagraphs (h)(ii) and (n)(iv) shall be recovered in 10 or fewer equal annual instalments so as to ensure their complete recovery by the end of the contract.
- (k) "Contractor's operating costs" means all expenditures incurred after the commencement of commercial production in the operation of the productive capacity of the area covered by the contract and the activities related thereto for operations under the contract, in conformity with generally recognized accounting principles, including, inter alia, the annual fixed fee or the production charge, whichever is greater, expenditures for wages, salaries, employee benefits, materials, services, transporting, processing and marketing costs, interest, utilities, preservation of the marine environment, overhead and administrative costs specifically related to operations under the contract, and any net operating losses carried forward or backward as specified herein. Net operating losses may be carried forward for two consecutive years except in the last two years of the contract in which case they may be carried backward to the two preceding years.
- (l) If the contractor engages in mining, transporting of polymetallic nodules, and production of processed and semi-processed metals, "development costs of the mining sector" means the portion of the contractor's development costs which is directly related to the mining of the resources of the area covered by the contract, in conformity with generally recognized accounting principles, and the financial rules, regulations and procedures of the Authority, including, inter alia, application fee,
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annual fixed fee and, where applicable, costs of prospecting and exploration of the area covered by the contract, and a portion of research and development costs.

- (m) "Return on investment" in any accounting year means the ratio of attributable net proceeds in that year to the development costs of the mining sector. For the purpose of computing this ratio the development costs of the mining sector shall include expenditures on new or replacement equipment in the mining sector less the original cost of the equipment replaced.
- (n) If the contractor engages in mining only:
- (i) "attributable net proceeds" means the whole of the contractor's net proceeds;
 - (ii) "contractor's net proceeds" shall be as defined in subparagraph (f);
 - (iii) "contractor's gross proceeds" means the gross revenues from the sale of the polymetallic nodules, and any other monies deemed reasonably attributable to operations under the contract in accordance with the financial rules, regulations and procedures of the Authority;
 - (iv) "contractor's development costs" means all expenditures incurred prior to the commencement of commercial production as set forth in subparagraph (h)(i), and all expenditures incurred subsequent to the commencement of commercial production as set forth in subparagraph (h)(ii), which are directly related to the mining of the resources of the area covered by the contract, in conformity with generally recognized accounting principles;
 - (v) "contractor's operating costs" means the contractor's operating costs as in subparagraph (k) which are directly related to the mining of the resources of the area covered by the contract in conformity with generally recognized accounting principles;
 - (vi) "return on investment" in any accounting year means the ratio of the contractor's net proceeds in that year to the contractor's development costs. For the purpose of computing this ratio, the contractor's development costs shall include expenditures on new or replacement equipment less the original cost of the equipment replaced.
- (o) The costs referred to in subparagraphs (h), (k), (l) and (n) in respect of interest paid by the contractor shall be allowed to the extent that, in all the circumstances, the Authority approves, pursuant to article 4, paragraph 1, of this Annex, the debt-equity ratio and the rates of interest as reasonable, having regard to existing commercial practice.
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- (p) The costs referred to in this paragraph shall not be interpreted as including payments of corporate income taxes or similar charges levied by States in respect of the operations of the contractor.
- 7.
- (a) "Processed metals", referred to in paragraphs 5 and 6, means the metals in the most basic form in which they are customarily traded on international terminal markets. For this purpose, the Authority shall specify, in its financial rules, regulations and procedures, the relevant international terminal market. For the metals which are not traded on such markets, "processed metals" means the metals in the most basic form in which they are customarily traded in representative arm's length transactions.
- (b) If the Authority cannot otherwise determine the quantity of the processed metals produced from the polymetallic nodules recovered from the area covered by the contract referred to in paragraphs 5(b) and 6(b), the quantity shall be determined on the basis of the metal content of the nodules, processing recovery efficiency and other relevant factors, in accordance with the rules, regulations and procedures of the Authority and in conformity with generally recognized accounting principles.
8. If an international terminal market provides a representative pricing mechanism for processed metals, polymetallic nodules and semi-processed metals from the nodules, the average price on that market shall be used. In all other cases, the Authority shall, after consulting the contractor, determine a fair price for the said products in accordance with paragraph 9.
- 9.
- (a) All costs, expenditures, proceeds and revenues and all determinations of price and value referred to in this article shall be the result of free market or arm's length transactions. In the absence thereof, they shall be determined by the Authority, after consulting the contractor, as though they were the result of free market or arm's length transactions, taking into account relevant transactions in other markets.
- (b) In order to ensure compliance with and enforcement of the provisions of this paragraph, the Authority shall be guided by the principles adopted for, and the interpretation given to, arm's length transactions by the Commission on Transnational Corporations of the United Nations, the Group of Experts on Tax Treaties between Developing and Developed Countries and other international organizations, and shall, in its rules, regulations and procedures, specify uniform and internationally acceptable accounting rules and procedures, and the means of selection by the contractor of certified independent accountants acceptable to the Authority for the purpose of carrying out auditing in compliance with those rules, regulations and procedures.
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10. The contractor shall make available to the accountants, in accordance with the financial rules, regulations and procedures of the Authority, such financial data as are required to determine compliance with this article.
11. All costs, expenditures, proceeds and revenues, and all prices and values referred to in this article, shall be determined in accordance with generally recognized accounting principles and the financial rules, regulations and procedures of the Authority.
12. Payments to the Authority under paragraphs 5 and 6 shall be made in freely usable currencies or currencies which are freely available and effectively usable on the major foreign exchange markets or, at the contractor's option, in the equivalents of processed metals at market value. The market value shall be determined in accordance with paragraph 5(b). The freely usable currencies and currencies which are freely available and effectively usable on the major foreign exchange markets shall be defined in the rules, regulations and procedures of the Authority in accordance with prevailing international monetary practice.
13. All financial obligations of the contractor to the Authority, as well as all his fees, costs, expenditures, proceeds and revenues referred to in this article, shall be adjusted by expressing them in constant terms relative to a base year.
14. The Authority may, taking into account any recommendations of the Economic Planning Commission and the Legal and Technical Commission, adopt rules, regulations and procedures that provide for incentives, on a uniform and non-discriminatory basis, to contractors to further the objectives set out in paragraph 1.
15. In the event of a dispute between the Authority and a contractor over the interpretation or application of the financial terms of a contract, either party may submit the dispute to binding commercial arbitration, unless both parties agree to settle the dispute by other means, in accordance with article 188, paragraph 2.

Article 14

Transfer of Data

1. The operator shall transfer to the Authority, in accordance with its rules, regulations and procedures and the terms and conditions of the plan of work, at time intervals determined by the Authority all data which are both necessary for and relevant to the effective exercise of the powers and functions of the principal organs of the Authority in respect of the area covered by the plan of work.
 2. Transferred data in respect of the area covered by the plan of work, deemed proprietary, may only be used for the purposes set forth in this article. Data necessary for the formulation by the Authority of rules, regulations and procedures concerning protection
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of the marine environment and safety, other than equipment design data, shall not be deemed proprietary.

3. Data transferred to the Authority by prospectors, applicants for contracts or contractors, deemed proprietary, shall not be disclosed by the Authority to the Enterprise or to anyone external to the Authority, but data on the reserved areas may be disclosed to the Enterprise. Such data transferred by such persons to the Enterprise shall not be disclosed by the Enterprise to the Authority or to anyone external to the Authority.

Article 15

Training Programmes

The contractor shall draw up practical programmes for the training of personnel of the Authority and developing States, including the participation of such personnel in all activities in the Area which are covered by the contract, in accordance with article 144, paragraph 2.

Article 16

Exclusive Right to Explore and Exploit

The Authority shall, pursuant to Part XI and its rules, regulations and procedures, accord the operator the exclusive right to explore and exploit the area covered by the plan of work in respect of a specified category of resources and shall ensure that no other entity operates in the same area for a different category of resources in a manner which might interfere with the operations of the operator. The operator shall have security of tenure in accordance with article 153, paragraph 6.

Article 17

Rules, Regulations and Procedures of the Authority

1. The Authority shall adopt and uniformly apply rules, regulations and procedures in accordance with article 160, paragraph 2(f)(ii), and article 162, paragraph 2(o)(ii), for the exercise of its functions as set forth in Part XI on, *inter alia*, the following matters:
 - (a) administrative procedures relating to prospecting, exploration and exploitation in the Area;
 - (b) operations:
 - (i) size of area;
 - (ii) duration of operations;

- (iii) performance requirements including assurances pursuant to article 4, paragraph 6(c), of this Annex;
- (iv) categories of resources;
- (v) renunciation of areas;
- (vi) progress reports;
- (vii) submission of data;
- (viii) inspection and supervision of operations;
- (ix) prevention of interference with other activities in the marine environment;
- (x) transfer of rights and obligations by a contractor;
- (xi) procedures for transfer of technology to developing States in accordance with article 144 and for their direct participation;
- (xii) mining standards and practices, including those relating to operational safety, conservation of the resources and the protection of the marine environment;
- (xiii) definition of commercial production;
- (xiv) qualification standards for applicants;

(c) financial matters:

- (i) establishment of uniform and non-discriminatory costing and accounting rules and the method of selection of auditors;
- (ii) apportionment of proceeds of operations;
- (iii) the incentives referred to in article 13 of this Annex;

(d) implementation of decisions taken pursuant to article 151, paragraph 10, and article 164, paragraph 2(d).

2. Rules, regulations and procedures on the following items shall fully reflect the objective criteria set out below:

(a) Size of areas:

The Authority shall determine the appropriate size of areas for exploration which may be up to twice as large as those for exploitation in order to permit intensive exploration operations. The size of area shall be calculated to satisfy the requirements of article 8 of this Annex on reservation of areas as well as stated production requirements consistent with article 151 in accordance with the terms of the contract taking into account the state of the art of technology then available for seabed mining

and the relevant physical characteristics of the areas. Areas shall be neither smaller nor larger than are necessary to satisfy this objective.

(b) Duration of operations:

(i) Prospecting shall be without time-limit;

(ii) Exploration should be of sufficient duration to permit a thorough survey of the specific area, the design and construction of mining equipment for the area and the design and construction of small and medium-size processing plants for the purpose of testing mining and processing systems;

(iii) The duration of exploitation should be related to the economic life of the mining project, taking into consideration such factors as the depletion of the ore, the useful life of mining equipment and processing facilities and commercial viability. Exploitation should be of sufficient duration to permit commercial extraction of minerals of the area and should include a reasonable time period for construction of commercial-scale mining and processing systems, during which period commercial production should not be required. The total duration of exploitation, however, should also be short enough to give the Authority an opportunity to amend the terms and conditions of the plan of work at the time it considers renewal in accordance with rules, regulations and procedures which it has adopted subsequent to approving the plan of work.

(c) Performance requirements:

The Authority shall require that during the exploration stage periodic expenditures be made by the operator which are reasonably related to the size of the area covered by the plan of work and the expenditures which would be expected of a *bona fide* operator who intended to bring the area into commercial production within the time-limits established by the Authority. The required expenditures should not be established at a level which would discourage prospective operators with less costly technology than is prevalently in use. The Authority shall establish a maximum time interval, after the exploration stage is completed and the exploitation stage begins, to achieve commercial production. To determine this interval, the Authority should take into consideration that construction of large-scale mining and processing systems cannot be initiated until after the termination of the exploration stage and the commencement of the exploitation stage. Accordingly, the interval to bring an area into commercial production should take into account the time necessary for this construction after the completion of the exploration stage and reasonable allowance should be made for unavoidable delays in the construction schedule. Once commercial production is achieved, the Authority shall within reasonable limits and taking into consideration all relevant factors require the operator to maintain commercial production throughout the period of the plan of work.

(d) Categories of resources:

In determining the category of resources in respect of which a plan of work may be approved, the Authority shall give emphasis *inter alia* to the following characteristics:

- (i) that certain resources require the use of similar mining methods; and
- (ii) that some resources can be developed simultaneously without undue interference between operators developing different resources in the same area.

Nothing in this subparagraph shall preclude the Authority from approving a plan of work with respect to more than one category of resources in the same area to the same applicant.

(e) Renunciation of areas:

The operator shall have the right at any time to renounce without penalty the whole or part of his rights in the area covered by a plan of work.

(f) Protection of the marine environment:

Rules, regulations and procedures shall be drawn up in order to secure effective protection of the marine environment from harmful effects directly resulting from activities in the Area or from shipboard processing immediately above a mine site of minerals derived from that mine site, taking into account the extent to which such harmful effects may directly result from drilling, dredging, coring and excavation and from disposal, dumping and discharge into the marine environment of sediment, wastes or other effluents.

(g) Commercial production:

Commercial production shall be deemed to have begun if an operator engages in sustained large-scale recovery operations which yield a quantity of materials sufficient to indicate clearly that the principal purpose is large-scale production rather than production intended for information gathering, analysis or the testing of equipment or plant.

Article 18

Penalties

1. A contractor's rights under the contract may be suspended or terminated only in the following cases:
 - (a) if, in spite of warnings by the Authority, the contractor has conducted his activities in such a way as to result in serious, persistent and wilful violations of the fundamental terms of the contract, Part XI and the rules, regulations and procedures of the Authority; or
 - (b) if the contractor has failed to comply with a final binding decision of the dispute settlement body applicable to him.
2. In the case of any violation of the contract not covered by paragraph 1(a), or in lieu of suspension or termination under paragraph 1(a), the Authority may impose upon the contractor monetary penalties proportionate to the seriousness of the violation.
3. Except for emergency orders under article 162, paragraph 2(w), the Authority may not execute a decision involving monetary penalties, suspension or termination until the contractor has been accorded a reasonable opportunity to exhaust the judicial remedies available to him pursuant to Part XI, section 5.

Article 19

Revision of Contract

1. When circumstances have arisen or are likely to arise which, in the opinion of either party, would render the contract inequitable or make it impracticable or impossible to achieve the objectives set out in the contract or in Part XI, the parties shall enter into negotiations to revise it accordingly.
2. Any contract entered into in accordance with article 153, paragraph 3, may be revised only with the consent of the parties.

Article 20

Transfer of Rights and Obligations

The rights and obligations arising under a contract may be transferred only with the consent of the Authority, and in accordance with its rules, regulations and procedures. The Authority shall not unreasonably withhold consent to the transfer if the proposed transferee is in all respects a qualified applicant and assumes all of the obligations of the transferor and if the

transfer does not confer to the transferee a plan of work, the approval of which would be forbidden by article 6, paragraph 3(c), of this Annex.

Article 21

Applicable Law

1. The contract shall be governed by the terms of the contract, the rules, regulations and procedures of the Authority, Part XI and other rules of international law not incompatible with this Convention.
2. Any final decision rendered by a court or tribunal having jurisdiction under this Convention relating to the rights and obligations of the Authority and of the contractor shall be enforceable in the territory of each State Party.
3. No State Party may impose conditions on a contractor that are inconsistent with Part XI. However, the application by a State Party to contractors sponsored by it, or to ships flying its flag, of environmental or other laws and regulations more stringent than those in the rules, regulations and procedures of the Authority adopted pursuant to article 17, paragraph 2(f), of this Annex shall not be deemed inconsistent with Part XI.

Article 22

Responsibility

The contractor shall have responsibility or liability for any damage arising out of wrongful acts in the conduct of its operations, account being taken of contributory acts or omissions by the Authority. Similarly, the Authority shall have responsibility or liability for any damage arising out of wrongful acts in the exercise of its powers and functions, including violations under article 168, paragraph 2, account being taken of contributory acts or omissions by the contractor. Liability in every case shall be for the actual amount of damage.

ANNEX IV

STATUTE OF THE ENTERPRISE

Article 1

Purposes

1. The Enterprise is the organ of the Authority which shall carry out activities in the Area directly, pursuant to article 153, paragraph 2 (a), as well as the transporting, processing and marketing of minerals recovered from the Area.

2. In carrying out its purposes and in the exercise of its functions, the Enterprise shall act in accordance with this Convention and the rules, regulations and procedures of the Authority.
3. In developing the resources of the Area pursuant to paragraph 1, the Enterprise shall, subject to this Convention, operate in accordance with sound commercial principles.

Article 2

Relationship to the Authority

1. Pursuant to article 170, the Enterprise shall act in accordance with the general policies of the Assembly and the directives of the Council.
2. Subject to paragraph 1, the Enterprise shall enjoy autonomy in the conduct of its operations.
3. Nothing in this Convention shall make the Enterprise liable for the acts or obligations of the Authority, or make the Authority liable for the acts or obligations of the Enterprise.

Article 3

Limitation of Liability

Without prejudice to article 11, paragraph 3, of this Annex, no member of the Authority shall be liable by reason only of its membership for the acts or obligations of the Enterprise.

Article 4

Structure

The Enterprise shall have a Governing Board, a Director-General and the staff necessary for the exercise of its functions.

Article 5

Governing Board

1. The Governing Board shall be composed of 15 members elected by the Assembly in accordance with article 160, paragraph 2(c). In the election of the members of the Board, due regard shall be paid to the principle of equitable geographical distribution. In submitting nominations of candidates for election to the Board, members of the Authority shall bear in mind the need to nominate candidates of the highest standard of competence, with qualifications in relevant fields, so as to ensure the viability and success of the Enterprise.
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2. Members of the Board shall be elected for four years and may be re-elected; and due regard shall be paid to the principle of rotation of membership.
3. Members of the Board shall continue in office until their successors are elected. If the office of a member of the Board becomes vacant, the Assembly shall, in accordance with article 160, paragraph 2(c), elect a new member for the remainder of his predecessor's term.
4. Members of the Board shall act in their personal capacity. In the performance of their duties they shall not seek or receive instructions from any government or from any other source. Each member of the Authority shall respect the independent character of the members of the Board and shall refrain from all attempts to influence any of them in the discharge of their duties.
5. Each member of the Board shall receive remuneration to be paid out of the funds of the Enterprise. The amount of remuneration shall be fixed by the Assembly, upon the recommendation of the Council.
6. The Board shall normally function at the principal office of the Enterprise and shall meet as often as the business of the Enterprise may require.
7. Two thirds of the members of the Board shall constitute a quorum.
8. Each member of the Board shall have one vote. All matters before the Board shall be decided by a majority of its members. If a member has a conflict of interest on a matter before the Board he shall refrain from voting on that matter.
9. Any member of the Authority may ask the Board for information in respect of its operations which particularly affect that member. The Board shall endeavour to provide such information.

Article 6

Powers and Functions of the Governing Board

The Governing Board shall direct the operations of the Enterprise. Subject to this Convention, the Governing Board shall exercise the powers necessary to fulfil the purposes of the Enterprise, including powers:

- (a) to elect a Chairman from among its members;
- (b) to adopt its rules of procedure;

BRUNEI DARUSSALAM TREATY SERIES

United Nations Convention on the Law of the Sea

- (c) to draw up and submit formal written plans of work to the Council in accordance with article 153, paragraph 3, and article 162, paragraph 2(j);
- (d) to develop plans of work and programmes for carrying out the activities specified in article 170;
- (e) to prepare and submit to the Council applications for production authorizations in accordance with article 151, paragraphs 2 to 7;
- (f) to authorize negotiations concerning the acquisition of technology, including those provided for in Annex III, article 5, paragraph 3(a), (c) and (d), and to approve the results of those negotiations;
- (g) to establish terms and conditions, and to authorize negotiations, concerning joint ventures and other forms of joint arrangements referred to in Annex III, articles 9 and 11, and to approve the results of such negotiations;
- (h) to recommend to the Assembly what portion of the net income of the Enterprise should be retained as its reserves in accordance with article 160, paragraph 2(f), and article 10 of this Annex;
- (i) to approve the annual budget of the Enterprise;
- (j) to authorize the procurement of goods and services in accordance with article 12, paragraph 3, of this Annex;
- (k) to submit an annual report to the Council in accordance with article 9 of this Annex;
- (l) to submit to the Council for the approval of the Assembly draft rules in respect of the organization, management, appointment and dismissal of the staff of the Enterprise and to adopt regulations to give effect to such rules;
- (m) to borrow funds and to furnish such collateral or other security as it may determine in accordance with article 11, paragraph 2, of this Annex;
- (n) to enter into any legal proceedings, agreements and transactions and to take any other actions in accordance with article 13 of this Annex;
- (o) to delegate, subject to the approval of the Council, any non-discretionary powers to the Director-General and to its committees.

Article 7

Director-General and Staff of the Enterprise

1. The Assembly shall, upon the recommendation of the Council and the nomination of the Governing Board, elect the Director-General of the Enterprise who shall not be a member of the Board. The Director-General shall hold office for a fixed term, not exceeding five years, and may be re-elected for further terms.
2. The Director-General shall be the legal representative and chief executive of the Enterprise and shall be directly responsible to the Board for the conduct of the operations of the Enterprise. He shall be responsible for the organization, management, appointment and dismissal of the staff of the Enterprise in accordance with the rules and regulations referred to in article 6, subparagraph (1), of this Annex. He shall participate, without the right to vote, in the meetings of the Board and may participate, without the right to vote, in the meetings of the Assembly and the Council when these organs are dealing with matters concerning the Enterprise.
3. The paramount consideration in the recruitment and employment of the staff and in the determination of their conditions of service shall be the necessity of securing the highest standards of efficiency and of technical competence. Subject to this consideration, due regard shall be paid to the importance of recruiting the staff on an equitable geographical basis.
4. In the performance of their duties the Director-General and the staff shall not seek or receive instructions from any government or from any other source external to the Enterprise. They shall refrain from any action which might reflect on their position as international officials of the Enterprise responsible only to the Enterprise. Each State Party undertakes to respect the exclusively international character of the responsibilities of the Director-General and the staff and not to seek to influence them in the discharge of their responsibilities.
5. The responsibilities set forth in article 168, paragraph 2, are equally applicable to the staff of the Enterprise.

Article 8

Location

The Enterprise shall have its principal office at the seat of the Authority. The Enterprise may establish other offices and facilities in the territory of any State Party with the consent of that State Party.

Article 9
Reports and Financial Statements

1. The Enterprise shall, not later than three months after the end of each financial year, submit to the Council for its consideration an annual report containing an audited statement of its accounts and shall transmit to the Council at appropriate intervals a summary statement of its financial position and a profit and loss statement showing the results of its operations.
2. The Enterprise shall publish its annual report and such other reports as it finds appropriate.
3. All reports and financial statements referred to in this article shall be distributed to the members of the Authority.

Article 10
Allocation of Net Income

1. Subject to paragraph 3, the Enterprise shall make payments to the Authority under Annex III, article 13, or their equivalent.
2. The Assembly shall, upon the recommendation of the Governing Board, determine what portion of the net income of the Enterprise shall be retained as reserves of the Enterprise. The remainder shall be transferred to the Authority.
3. During an initial period required for the Enterprise to become self-supporting, which shall not exceed 10 years from the commencement of commercial production by it, the Assembly shall exempt the Enterprise from the payments referred to in paragraph 1, and shall leave all of the net income of the Enterprise in its reserves.

Article 11
Finances

1. The funds of the Enterprise shall include:
 - (a) amounts received from the Authority in accordance with article 173, paragraph 2(b);
 - (b) voluntary contributions made by States Parties for the purpose of financing activities of the Enterprise;
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- (c) amounts borrowed by the Enterprise in accordance with paragraphs 2 and 3;
 - (d) income of the Enterprise from its operations;
 - (e) other funds made available to the Enterprise to enable it to commence operations as soon as possible and to carry out its functions.
- 2.
- (a) The Enterprise shall have the power to borrow funds and to furnish such collateral or other security as it may determine. Before making a public sale of its obligations in the financial markets or currency of a State Party, the Enterprise shall obtain the approval of that State Party. The total amount of borrowings shall be approved by the Council upon the recommendation of the Governing Board.
 - (b) States Parties shall make every reasonable effort to support applications by the Enterprise for loans on capital markets and from international financial institutions.
- 3.
- (a) The Enterprise shall be provided with the funds necessary to explore and exploit one mine site, and to transport, process and market the minerals recovered therefrom and the nickel, copper, cobalt and manganese obtained, and to meet its initial administrative expenses. The amount of the said funds, and the criteria and factors for its adjustment, shall be included by the Preparatory Commission in the draft rules, regulations and procedures of the Authority.
 - (b) All States Parties shall make available to the Enterprise an amount equivalent to one half of the funds referred to in subparagraph (a) by way of long-term interest-free loans in accordance with the scale of assessments for the United Nations regular budget in force at the time when the assessments are made, adjusted to take into account the States which are not members of the United Nations. Debts incurred by the Enterprise in raising the other half of the funds shall be guaranteed by all States Parties in accordance with the same scale.
 - (c) If the sum of the financial contributions of States Parties is less than the funds to be provided to the Enterprise under subparagraph (a), the Assembly shall, at its first session, consider the extent of the shortfall and adopt by consensus measures for dealing with this shortfall, taking into account the obligation of States Parties under subparagraphs (a) and (b) and any recommendations of the Preparatory Commission.
 - (d)
 - (i) Each State Party shall, within 60 days after the entry into force of this Convention, or within 30 days after the deposit of its instrument of ratification or accession,
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BRUNEI DARUSSALAM TREATY SERIES

United Nations Convention on the Law of the Sea

whichever is later, deposit with the Enterprise irrevocable, non-negotiable, non-interest-bearing promissory notes in the amount of the share of such State Party of interest-free loans pursuant to subparagraph (b)

- (ii) The Board shall prepare, at the earliest practicable date after this Convention enters into force, and thereafter at annual or other appropriate intervals, a schedule of the magnitude and timing of its requirements for the funding of its administrative expenses and for activities carried out by the Enterprise in accordance with article 170 and article 12 of this Annex.
- (iii) The States Parties shall, thereupon, be notified by the Enterprise, through the Authority, of their respective shares of the funds in accordance with subparagraph (b), required for such expenses. The Enterprise shall encash such amounts of the promissory notes as may be required to meet the expenditure referred to in the schedule with respect to interest-free loans.
- (iv) States Parties shall, upon receipt of the notification, make available their respective shares of debt guarantees for the Enterprise in accordance with subparagraph (b).
- (e)
 - (i) If the Enterprise so requests, State Parties may provide debt guarantees in addition to those provided in accordance with the scale referred to in subparagraph (b).
 - (ii) In lieu of debt guarantees, a State Party may make a voluntary contribution to the Enterprise in an amount equivalent to that portion of the debts which it would otherwise be liable to guarantee.
- (f) Repayment of the interest-bearing loans shall have priority over the repayment of the interest-free loans. Repayment of interest-free loans shall be in accordance with a schedule adopted by the Assembly, upon the recommendation of the Council and the advice of the Board. In the exercise of this function the Board shall be guided by the relevant provisions of the rules, regulations and procedures of the Authority, which shall take into account the paramount importance of ensuring the effective functioning of the Enterprise and, in particular, ensuring its financial independence.
- (g) Funds made available to the Enterprise shall be in freely usable currencies or currencies which are freely available and effectively usable in the major foreign exchange markets. These currencies shall be defined in the rules, regulations and procedures of the Authority in accordance with prevailing international monetary practice. Except as provided in paragraph 2, no State Party shall maintain or impose restrictions on the holding, use or exchange by the Enterprise of these funds.

- (h) "Debt guarantee" means a promise of a State Party to creditors of the Enterprise to pay, *pro rata* in accordance with the appropriate scale, the financial obligations of the Enterprise covered by the guarantee following notice by the creditors to the State Party of a default by the Enterprise. Procedures for the payment of those obligations shall be in conformity with the rules, regulations and procedures of the Authority.
4. The funds, assets and expenses of the Enterprise shall be kept separate from those of the Authority. This article shall not prevent the Enterprise from making arrangements with the Authority regarding facilities, personnel and services and arrangements for reimbursement of administrative expenses paid by either on behalf of the other.
5. The records, books and accounts of the Enterprise, including its annual financial statements, shall be audited annually by an independent auditor appointed by the Council.

Article 12 **Operations**

1. The Enterprise shall propose to the Council projects for carrying out activities in accordance with article 170. Such proposals shall include a formal written plan of work for activities in the Area in accordance with article 153, paragraph 3, and all such other information and data as may be required from time to time for its appraisal by the Legal and Technical Commission and approval by the Council.
2. Upon approval by the Council, the Enterprise shall execute the project on the basis of the formal written plan of work referred to in paragraph 1.
- 3.
- (a) If the Enterprise does not possess the goods and services required for its operations it may procure them. For that purpose, it shall issue invitations to tender and award contracts to bidders offering the best combination of quality, price and delivery time.
- (b) If there is more than one bid offering such a combination, the contract shall be awarded in accordance with:
- (i) the principle of non-discrimination on the basis of political or other considerations not relevant to the carrying out of operations with due diligence and efficiency; and
- (ii) guidelines approved by the Council with regard to the preferences to be accorded to goods and services originating in developing States, including the land-locked and geographically disadvantaged among them.

- (c) The Governing Board may adopt rules determining the special circumstances in which the requirement of invitations to bid may, in the best interests of the Enterprise, be dispensed with.
- 4. The Enterprise shall have title to all minerals and processed substances produced by it.
- 5. The Enterprise shall sell its products on a non-discriminatory basis. It shall not give non-commercial discounts.
- 6. Without prejudice to any general or special power conferred on the Enterprise under any other provision of this Convention, the Enterprise shall exercise such powers incidental to its business as shall be necessary.
- 7. The Enterprise shall not interfere in the political affairs of any State Party; nor shall it be influenced in its decisions by the political character of the State Party concerned. Only commercial considerations shall be relevant to its decisions, and these considerations shall be weighed impartially in order to carry out the purposes specified in article 1 of this Annex.

Article 13

Legal Status, Privileges and Immunities

- 1. To enable the Enterprise to exercise its functions, the status, privileges and immunities set forth in this article shall be accorded to the Enterprise in the territories of States Parties. To give effect to this principle the Enterprise and States Parties may, where necessary, enter into special agreements.
- 2. The Enterprise shall have such legal capacity as is necessary for the exercise of its functions and the fulfilment of its purposes and, in particular, the capacity:
 - (a) to enter into contracts, joint arrangements or other arrangements, including agreements with States and international organizations;
 - (b) to acquire, lease, hold and dispose of immovable and movable property;
 - (c) to be a party to legal proceedings.
- 3.
 - (a) Actions may be brought against the Enterprise only in a court of competent jurisdiction in the territory of a State Party in which the Enterprise:

- (i) has an office or facility;
 - (ii) has appointed an agent for the purpose of accepting service or notice of process;
 - (iii) has entered into a contract for goods or services;
 - (iv) has issued securities; or
 - (v) is otherwise engaged in commercial activity.
- (b) The property and assets of the Enterprise, wherever located and by whomsoever held, shall be immune from all forms of seizure, attachment or execution before the delivery of final judgment against the Enterprise.
- 4.
- (a) The property and assets of the Enterprise, wherever located and by whomsoever held, shall be immune from requisition, confiscation, expropriation or any other form of seizure by executive or legislative action.
 - (b) The property and assets of the Enterprise, wherever located and by whomsoever held, shall be free from discriminatory restrictions, regulations, controls and moratoria of any nature.
 - (c) The Enterprise and its employees shall respect local laws and regulations in any State or territory in which the Enterprise or its employees may do business or otherwise act.
 - (d) States Parties shall ensure that the Enterprise enjoys all rights, privileges and immunities accorded by them to entities conducting commercial activities in their territories. These rights, privileges and immunities shall be accorded to the Enterprise on no less favourable a basis than that on which they are accorded to entities engaged in similar commercial activities. If special privileges are provided by States Parties for developing States or their commercial entities, the Enterprise shall enjoy those privileges on a similarly preferential basis.
 - (e) States Parties may provide special incentives, rights, privileges and immunities to the Enterprise without the obligation to provide such incentives, rights, privileges and immunities to other commercial entities.
5. The Enterprise shall negotiate with the host countries in which its offices and facilities are located for exemption from direct and indirect taxation.
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6. Each State Party shall take such action as is necessary for giving effect in terms of its own law to the principles set forth in this Annex and shall inform the Enterprise of the specific action which it has taken.
7. The Enterprise may waive any of the privileges and immunities conferred under this article or in the special agreements referred to in paragraph 1 to such extent and upon such conditions as it may determine.

**ANNEX V
CONCILIATION**

**SECTION 1
CONCILIATION PROCEDURE PURSUANT TO SECTION 1 OF PART XV**

**Article 1
Institution of Proceedings**

If the parties to a dispute have agreed, in accordance with article 284, to submit it to conciliation under this section, any such party may institute the proceedings by written notification addressed to the other party or parties to the dispute.

**Article 2
List of Conciliators**

A list of conciliators shall be drawn up and maintained by the Secretary-General of the United Nations. Every State Party shall be entitled to nominate four conciliators, each of whom shall be a person enjoying the highest reputation for fairness, competence and integrity. The names of the persons so nominated shall constitute the list. If at any time the conciliators nominated by a State Party in the list so constituted shall be fewer than four, that State Party shall be entitled to make further nominations as necessary. The name of a conciliator shall remain on the list until withdrawn by the State Party which made the nomination, provided that such conciliator shall continue to serve on any conciliation commission to which that conciliator has been appointed until the completion of the proceedings before that commission.

**Article 3
Constitution of Conciliation Commission**

The conciliation commission shall, unless the parties otherwise agree, be constituted as follows:

- (a) Subject to subparagraph (g), the conciliation commission shall consist of five members.
- (b) The party instituting the proceedings shall appoint two conciliators to be chosen preferably from the list referred to in article 2 of this Annex, one of whom may be its national, unless the parties otherwise agree. Such appointments shall be included in the notification referred to in article 1 of this Annex.
- (c) The other party to the dispute shall appoint two conciliators in the manner set forth in subparagraph (b) within 21 days of receipt of the notification referred to in article 1 of this Annex. If the appointments are not made within that period, the party instituting the proceedings may, within one week of the expiration of that period, either terminate the proceedings by notification addressed to the other party or request the Secretary-General of the United Nations to make the appointments in accordance with subparagraph (e).
- (d) Within 30 days after all four conciliators have been appointed, they shall appoint a fifth conciliator chosen from the list referred to in article 2 of this Annex, who shall be chairman. If the appointment is not made within that period, either party may, within one week of the expiration of that period, request the Secretary-General of the United Nations to make the appointment in accordance with subparagraph (e).
- (e) Within 30 days of the receipt of a request under subparagraph (c) or (d), the Secretary-General of the United Nations shall make the necessary appointments from the list referred to in article 2 of this Annex in consultation with the parties to the dispute.
- (f) Any vacancy shall be filled in the manner prescribed for the initial appointment.
- (g) Two or more parties which determine by agreement that they are in the same interest shall appoint two conciliators jointly. Where two or more parties have separate interests or there is a disagreement as to whether they are of the same interest, they shall appoint conciliators separately.
- (h) In disputes involving more than two parties having separate interests, or where there is disagreement as to whether they are of the same interest, the parties shall apply subparagraphs (a) to (f) in so far as possible.

Article 4 **Procedure**

The conciliation commission shall, unless the parties otherwise agree, determine its own procedure. The commission may, with the consent of the parties to the dispute, invite any State Party to submit to it its views orally or in writing. Decisions of the commission

regarding procedural matters, the report and recommendations shall be made by a majority vote of its members.

Article 5
Amicable Settlement

The commission may draw the attention of the parties to any measures which might facilitate an amicable settlement of the dispute.

Article 6
Functions of the commission

The commission shall hear the parties, examine their claims and objections, and make proposals to the parties with a view to reaching an amicable settlement.

Article 7
Report

1. The commission shall report within 12 months of its constitution. Its report shall record any agreements reached and, failing agreement, its conclusions on all questions of fact or law relevant to the matter in dispute and such recommendations as the commission may deem appropriate for an amicable settlement. The report shall be deposited with the Secretary-General of the United Nations and shall immediately be transmitted by him to the parties to the dispute.
2. The report of the commission, including its conclusions or recommendations, shall not be binding upon the parties.

Article 8
Termination

The conciliation proceedings are terminated when a settlement has been reached, when the parties have accepted or one party has rejected the recommendations of the report by written notification addressed to the Secretary-General of the United Nations, or when a period of three months has expired from the date of transmission of the report to the parties.

Article 9
Fees and Expenses

The fees and expenses of the commission shall be borne by the parties to the dispute.

Article 10

Right of Parties to Modify Procedure

The parties to the dispute may by agreement applicable solely to that dispute modify any provision of this Annex.

SECTION 2

COMPULSORY SUBMISSION TO CONCILIATION PROCEDURE PURSUANT TO SECTION 3 OF PART XV

Article 11

Institution of Proceedings

1. Any party to a dispute which, in accordance with Part XV, section 3, may be submitted to conciliation under this section, may institute the proceedings by written notification addressed to the other party or parties to the dispute.
2. Any party to the dispute, notified under paragraph 1, shall be obliged to submit to such proceedings.

Article 12

Failure to Reply or to Submit to Conciliation

The failure of a party or parties to the dispute to reply to notification of institution of proceedings or to submit to such proceedings shall not constitute a bar to the proceedings.

Article 13

Competence

A disagreement as to whether a conciliation commission acting under this section has competence shall be decided by the commission.

Article 14

Application of Section 1

Articles 2 to 10 of section 1 of this Annex apply subject to this section.

ANNEX VI
STATUTE OF THE INTERNATIONAL TRIBUNAL FOR THE LAW OF THE SEA

Article 1
General Provisions

1. The International Tribunal for the Law of the Sea is constituted and shall function in accordance with the provisions of this Convention and this Statute.
2. The seat of the Tribunal shall be in the Free and Hanseatic City of Hamburg in the Federal Republic of Germany.
3. The Tribunal may sit and exercise its functions elsewhere whenever it considers this desirable.
4. A reference of a dispute to the Tribunal shall be governed by the provisions of Parts XI and XV.

SECTION 1
ORGANIZATION OF THE TRIBUNAL

Article 2
Composition

1. The Tribunal shall be composed of a body of 21 independent members, elected from among persons enjoying the highest reputation for fairness and integrity and of recognized competence in the field of the law of the sea.
2. In the Tribunal as a whole the representation of the principal legal systems of the world and equitable geographical distribution shall be assured.

Article 3
Membership

1. No two members of the Tribunal may be nationals of the same State. A person who for the purposes of membership in the Tribunal could be regarded as a national of more than one State shall be deemed to be a national of the one in which he ordinarily exercises civil and political rights.

2. There shall be no fewer than three members from each geographical group as established by the General Assembly of the United Nations.

Article 4

Nominations and Elections

1. Each State Party may nominate not more than two persons having the qualifications prescribed in article 2 of this Annex. The members of the Tribunal shall be elected from the list of persons thus nominated.
2. At least three months before the date of the election, the Secretary-General of the United Nations in the case of the first election and the Registrar of the Tribunal in the case of subsequent elections shall address a written invitation to the States Parties to submit their nominations for members of the Tribunal within two months. He shall prepare a list in alphabetical order of all the persons thus nominated, with an indication of the States Parties which have nominated them, and shall submit it to the States Parties before the seventh day of the last month before the date of each election.
3. The first election shall be held within six months of the date of entry into force of this Convention.
4. The members of the Tribunal shall be elected by secret ballot. Elections shall be held at a meeting of the States Parties convened by the Secretary-General of the United Nations in the case of the first election and by a procedure agreed to by the States Parties in the case of subsequent elections. Two thirds of the States Parties shall constitute a quorum at that meeting. The persons elected to the Tribunal shall be those nominees who obtain the largest number of votes and a two-thirds majority of the States Parties present and voting, provided that such majority includes a majority of the States Parties.

Article 5

Term of Office

1. The members of the Tribunal shall be elected for nine years and may be re-elected; provided, however, that of the members elected at the first election, the terms of seven members shall expire at the end of three years and the terms of seven more members shall expire at the end of six years.
2. The members of the Tribunal whose terms are to expire at the end of the above-mentioned initial periods of three and six years shall be chosen by lot to be drawn by the Secretary-General of the United Nations immediately after the first election.

3. The members of the Tribunal shall continue to discharge their duties until their places have been filled. Though replaced, they shall finish any proceedings which they may have begun before the date of their replacement.
4. In the case of the resignation of a member of the Tribunal, the letter of resignation shall be addressed to the President of the Tribunal. The place becomes vacant on the receipt of that letter.

Article 6
Vacancies

1. Vacancies shall be filled by the same method as that laid down for the first election, subject to the following provision: the Registrar shall, within one month of the occurrence of the vacancy, proceed to issue the invitations provided for in article 4 of this Annex, and the date of the election shall be fixed by the President of the Tribunal after consultation with the States Parties.
2. A member of the Tribunal elected to replace a member whose term of office has not expired shall hold office for the remainder of his predecessor's term.

Article 7
Incompatible Activities

1. No member of the Tribunal may exercise any political or administrative function, or associate actively with or be financially interested in any of the operations of any enterprise concerned with the exploration for or exploitation of the resources of the sea or the seabed or other commercial use of the sea or the seabed.
2. No member of the Tribunal may act as agent, counsel or advocate in any case.
3. Any doubt on these points shall be resolved by decision of the majority of the other members of the Tribunal present.

Article 8
Conditions Relating to Participation of Members in a Particular Case

1. No member of the Tribunal may participate in the decision of any case in which he has previously taken part as agent, counsel or advocate for one of the parties, or as a member of a national or international court or tribunal, or in any other capacity.

2. If, for some special reason, a member of the Tribunal considers that he should not take part in the decision of a particular case, he shall so inform the President of the Tribunal.
3. If the President considers that for some special reason one of the members of the Tribunal should not sit in a particular case, he shall give him notice accordingly.
4. Any doubt on these points shall be resolved by decision of the majority of the other members of the Tribunal present.

Article 9

Consequence of Ceasing to Fulfil Required Conditions

If, in the unanimous opinion of the other members of the Tribunal, a member has ceased to fulfil the required conditions, the President of the Tribunal shall declare the seat vacant.

Article 10

Privileges and Immunities

The members of the Tribunal, when engaged on the business of the Tribunal, shall enjoy diplomatic privileges and immunities.

Article 11

Solemn Declaration by Members

Every member of the Tribunal shall, before taking up his duties, make a solemn declaration in open session that he will exercise his powers impartially and conscientiously.

Article 12

President, Vice-President and Registrar

1. The Tribunal shall elect its President and Vice-President for three years; they may be re-elected.
2. The Tribunal shall appoint its Registrar and may provide for the appointment of such other officers as may be necessary.
3. The President and the Registrar shall reside at the seat of the Tribunal.

Article 13

Quorum

1. All available members of the Tribunal shall sit; a quorum of 11 elected members shall be required to constitute the Tribunal.
2. Subject to article 17 of this Annex, the Tribunal shall determine which members are available to constitute the Tribunal for the consideration of a particular dispute, having regard to the effective functioning of the chambers as provided for in articles 14 and 15 of this Annex.
3. All disputes and applications submitted to the Tribunal shall be heard and determined by the Tribunal, unless article 14 of this Annex applies, or the parties request that it shall be dealt with in accordance with article 15 of this Annex.

Article 14

Seabed Disputes Chamber

A Seabed Disputes Chamber shall be established in accordance with the provisions of section 4 of this Annex. Its jurisdiction, powers and functions shall be as provided for in Part XI, section 5.

Article 15

Special Chambers

1. The Tribunal may form such chambers, composed of three or more of its elected members, as it considers necessary for dealing with particular categories of disputes.
2. The Tribunal shall form a chamber for dealing with a particular dispute submitted to it if the parties so request. The composition of such a chamber shall be determined by the Tribunal with the approval of the parties.
3. With a view to the speedy dispatch of business, the Tribunal shall form annually a chamber composed of five of its elected members which may hear and determine disputes by summary procedure. Two alternative members shall be selected for the purpose of replacing members who are unable to participate in a particular proceeding.
4. Disputes shall be heard and determined by the chambers provided for in this article if the parties so request.

5. A judgment given by any of the chambers provided for in this article and in article 14 of this Annex shall be considered as rendered by the Tribunal.

Article 16

Rules of the Tribunal

The Tribunal shall frame rules for carrying out its functions. In particular it shall lay down rules of procedure.

Article 17

Nationality of Members

1. Members of the Tribunal of the nationality of any of the parties to a dispute shall retain their right to participate as members of the Tribunal.
2. If the Tribunal, when hearing a dispute, includes upon the bench a member of the nationality of one of the parties, any other party may choose a person to participate as a member of the Tribunal.
3. If the Tribunal, when hearing a dispute, does not include upon the bench a member of the nationality of the parties, each of those parties may choose a person to participate as a member of the Tribunal.
4. This article applies to the chambers referred to in articles 14 and 15 of this Annex. In such cases, the President, in consultation with the parties, shall request specified members of the Tribunal forming the chamber, as many as necessary, to give place to the members of the Tribunal of the nationality of the parties concerned, and, failing such, or if they are unable to be present, to the members specially chosen by the parties.
5. Should there be several parties in the same interest, they shall, for the purpose of the preceding provisions, be considered as one party only. Any doubt on this point shall be settled by the decision of the Tribunal.
6. Members chosen in accordance with paragraphs 2, 3 and 4 shall fulfil the conditions required by articles 2, 8 and 11 of this Annex. They shall participate in the decision on terms of complete equality with their colleagues.

Article 18
Remuneration of Members

1. Each elected member of the Tribunal shall receive an annual allowance and, for each day on which he exercises his functions, a special allowance, provided that in any year the total sum payable to any member as special allowance shall not exceed the amount of the annual allowance.
2. The President shall receive a special annual allowance.
3. The Vice-President shall receive a special allowance for each day on which he acts as President.
4. The members chosen under article 17 of this Annex, other than elected members of the Tribunal, shall receive compensation for each day on which they exercise their functions.
5. The salaries, allowances and compensation shall be determined from time to time at meetings of the States Parties, taking into account the workload of the Tribunal. They may not be decreased during the term of office.
6. The salary of the Registrar shall be determined at meetings of the States Parties, on the proposal of the Tribunal.
7. Regulations adopted at meetings of the States Parties shall determine the conditions under which retirement pensions may be given to members of the Tribunal and to the Registrar, and the conditions under which members of the Tribunal and Registrar shall have their travelling expenses refunded.
8. The salaries, allowances, and compensation shall be free of all taxation.

Article 19
Expenses of the Tribunal

1. The expenses of the Tribunal shall be borne by the States Parties and by the Authority on such terms and in such a manner as shall be decided at meetings of the States Parties.
2. When an entity other than a State Party or the Authority is a party to a case submitted to it, the Tribunal shall fix the amount which that party is to contribute towards the expenses of the Tribunal.

**SECTION 2
COMPETENCE**

**Article 20
Access to the Tribunal**

1. The Tribunal shall be open to States Parties.
2. The Tribunal shall be open to entities other than States Parties in any case expressly provided for in Part XI or in any case submitted pursuant to any other agreement conferring jurisdiction on the Tribunal which is accepted by all the parties to that case.

**Article 21
Jurisdiction**

The jurisdiction of the Tribunal comprises all disputes and all applications submitted to it in accordance with this Convention and all matters specifically provided for in any other agreement which confers jurisdiction on the Tribunal.

**Article 22
Reference of Disputes Subject to Other Agreements**

If all the parties to a treaty or convention already in force and concerning the subject-matter covered by this Convention so agree, any disputes concerning the interpretation or application of such treaty or convention may, in accordance with such agreement, be submitted to the Tribunal.

**Article 23
Applicable Law**

The Tribunal shall decide all disputes and applications in accordance with article 293.

**SECTION 3
PROCEDURE**

**Article 24
Institution of Proceedings**

1. Disputes are submitted to the Tribunal, as the case may be, either by notification of a special agreement or by written application, addressed to the Registrar. In either case, the subject of the dispute and the parties shall be indicated.
2. The Registrar shall forthwith notify the special agreement or the application to all concerned.
3. The Registrar shall also notify all States Parties.

**Article 25
Provisional Measures**

1. In accordance with article 290, the Tribunal and its Seabed Disputes Chamber shall have the power to prescribe provisional measures.
2. If the Tribunal is not in session or a sufficient number of members is not available to constitute a quorum, the provisional measures shall be prescribed by the chamber of summary procedure formed under article 15, paragraph 3, of this Annex. Notwithstanding article 15, paragraph 4, of this Annex, such provisional measures may be adopted at the request of any party to the dispute. They shall be subject to review and revision by the Tribunal.

**Article 26
Hearing**

1. The hearing shall be under the control of the President or, if he is unable to preside, of the Vice-President. If neither is able to preside, the senior judge present of the Tribunal shall preside.
2. The hearing shall be public, unless the Tribunal decides otherwise or unless the parties demand that the public be not admitted.

Article 27
Conduct of Case

The Tribunal shall make orders for the conduct of the case, decide the form and time in which each party must conclude its arguments, and make all arrangements connected with the taking of evidence.

Article 28
Default

When one of the parties does not appear before the Tribunal or fails to defend its case, the other party may request the Tribunal to continue the proceedings and make its decision. Absence of a party or failure of a party to defend its case shall not constitute a bar to the proceedings. Before making its decision, the Tribunal must satisfy itself not only that it has jurisdiction over the dispute, but also that the claim is well founded in fact and law.

Article 29
Majority for Decision

1. All questions shall be decided by a majority of the members of the Tribunal who are present.
2. In the event of an equality of votes, the President or the member of the Tribunal who acts in his place shall have a casting vote.

Article 30
Judgment

1. The judgment shall state the reasons on which it is based.
2. It shall contain the names of the members of the Tribunal who have taken part in the decision.
3. If the judgment does not represent in whole or in part the unanimous opinion of the members of the Tribunal, any member shall be entitled to deliver a separate opinion.
4. The judgment shall be signed by the President and by the Registrar. It shall be read in open court, due notice having been given to the parties to the dispute.

Article 31
Request to Intervene

1. Should a State Party consider that it has an interest of a legal nature which may be affected by the decision in any dispute, it may submit a request to the Tribunal to be permitted to intervene.
2. It shall be for the Tribunal to decide upon this request.
3. If a request to intervene is granted, the decision of the Tribunal in respect of the dispute shall be binding upon the intervening State Party in so far as it relates to matters in respect of which that State Party intervened.

Article 32
Right to Intervene in Cases of Interpretation or Application

1. Whenever the interpretation or application of this Convention is in question, the Registrar shall notify all States Parties forthwith.
2. Whenever pursuant to article 21 or 22 of this Annex the interpretation or application of an international agreement is in question, the Registrar shall notify all the parties to the agreement.
3. Every party referred to in paragraphs 1 and 2 has the right to intervene in the proceedings; if it uses this right, the interpretation given by the judgment will be equally binding upon it.

Article 33
Finality and Binding Force of Decisions

1. The decision of the Tribunal is final and shall be complied with by all the parties to the dispute.
2. The decision shall have no binding force except between the parties in respect of that particular dispute.
3. In the event of dispute as to the meaning or scope of the decision, the Tribunal shall construe it upon the request of any party.

Article 34

Costs

Unless otherwise decided by the Tribunal, each party shall bear its own costs.

SECTION 4

SEABED DISPUTES CHAMBER

Article 35

Composition

1. The Seabed Disputes Chamber referred to in article 14 of this Annex shall be composed of 11 members, selected by a majority of the elected members of the Tribunal from among them.
2. In the selection of the members of the Chamber, the representation of the principal legal systems of the world and equitable geographical distribution shall be assured. The Assembly of the Authority may adopt recommendations of a general nature relating to such representation and distribution.
3. The members of the Chamber shall be selected every three years and may be selected for a second term.
4. The Chamber shall elect its President from among its members, who shall serve for the term for which the Chamber has been selected.
5. If any proceedings are still pending at the end of any three-year period for which the Chamber has been selected, the Chamber shall complete the proceedings in its original composition.
6. If a vacancy occurs in the Chamber, the Tribunal shall select a successor from among its elected members, who shall hold office for the remainder of his predecessor's term.
7. A quorum of seven of the members selected by the Tribunal shall be required to constitute the Chamber.

Article 36
Ad-hoc Chambers

1. The Seabed Disputes Chamber shall form an ad hoc chamber, composed of three of its members, for dealing with a particular dispute submitted to it in accordance with article 188, paragraph 1(b). The composition of such a chamber shall be determined by the Seabed Disputes Chamber with the approval of the parties.
2. If the parties do not agree on the composition of an ad hoc chamber, each party to the dispute shall appoint one member, and the third member shall be appointed by them in agreement. If they disagree, or if any party fails to make an appointment, the President of the Seabed Disputes Chamber shall promptly make the appointment or appointments from among its members, after consultation with the parties.
3. Members of the ad hoc chamber must not be in the service of, or nationals of, any of the parties to the dispute.

Article 37
Access

The Chamber shall be open to the States Parties, the Authority and the other entities referred to in Part XI, section 5.

Article 38
Applicable Law

In addition to the provisions of article 293, the Chamber shall apply:

- (a) the rules, regulations and procedures of the Authority adopted in accordance with this Convention; and
- (b) the terms of contracts concerning activities in the Area in matters relating to those contracts.

Article 39
Enforcement of Decisions of the Chamber

The decisions of the Chamber shall be enforceable in the territories of the States Parties in the same manner as judgments or orders of the highest court of the State Party in whose territory the enforcement is sought.

Article 40

Applicability of Other Sections of this Annex

1. The other sections of this Annex which are not incompatible with this section apply to the Chamber.
2. In the exercise of its functions relating to advisory opinions, the Chamber shall be guided by the provisions of this Annex relating to procedure before the Tribunal to the extent to which it recognizes them to be applicable.

**SECTION 5
AMENDMENTS**

**Article 41
Amendments**

1. Amendments to this Annex, other than amendments to section 4, may be adopted only in accordance with article 313 or by consensus at a conference convened in accordance with this Convention.
2. Amendments to section 4 may be adopted only in accordance with article 314.
3. The Tribunal may propose such amendments to this Statute as it may consider necessary, by written communications to the States Parties for their consideration in conformity with paragraphs 1 and 2.

**ANNEX VII
ARBITRATION**

**Article 1
Institution of Proceedings**

Subject to the provisions of Part XV, any party to a dispute may submit the dispute to the arbitral procedure provided for in this Annex by written notification addressed to the other party or parties to the dispute. The notification shall be accompanied by a statement of the claim and the grounds on which it is based.

Article 2
List of Arbitrators

1. A list of arbitrators shall be drawn up and maintained by the Secretary-General of the United Nations. Every State Party shall be entitled to nominate four arbitrators, each of whom shall be a person experienced in maritime affairs and enjoying the highest reputation for fairness, competence and integrity. The names of the persons so nominated shall constitute the list.
2. If at any time the arbitrators nominated by a State Party in the list so constituted shall be fewer than four, that State Party shall be entitled to make further nominations as necessary.
3. The name of an arbitrator shall remain on the list until withdrawn by the State Party which made the nomination, provided that such arbitrator shall continue to serve on any arbitral tribunal to which that arbitrator has been appointed until the completion of the proceedings before that arbitral tribunal.

Article 3
Constitution of Arbitral Tribunal

For the purpose of proceedings under this Annex, the arbitral tribunal shall, unless the parties otherwise agree, be constituted as follows:

- (a) Subject to subparagraph (g), the arbitral tribunal shall consist of five members.
- (b) The party instituting the proceedings shall appoint one member to be chosen preferably from the list referred to in article 2 of this Annex, who may be its national. The appointment shall be included in the notification referred to in article 1 of this Annex.
- (c) The other party to the dispute shall, within 30 days of receipt of the notification referred to in article 1 of this Annex, appoint one member to be chosen preferably from the list, who may be its national. If the appointment is not made within that period, the party instituting the proceedings may, within two weeks of the expiration of that period, request that the appointment be made in accordance with subparagraph (e).
- (d) The other three members shall be appointed by agreement between the parties. They shall be chosen preferably from the list and shall be nationals of third States unless the parties otherwise agree. The parties to the dispute shall appoint the President of the arbitral tribunal from among those three members. If, within 60 days of receipt of the notification referred to in article 1 of this Annex, the parties are unable to reach agreement on the appointment of one or more of the members of the tribunal to be appointed by agreement,

or on the appointment of the President, the remaining appointment or appointments shall be made in accordance with subparagraph (e), at the request of a party to the dispute. Such request shall be made within two weeks of the expiration of the aforementioned 60-day period.

- (e) Unless the parties agree that any appointment under subparagraphs (c) and (d) be made by a person or a third State chosen by the parties, the President of the International Tribunal for the Law of the Sea shall make the necessary appointments. If the President is unable to act under this subparagraph or is a national of one of the parties to the dispute, the appointment shall be made by the next senior member of the International Tribunal for the Law of the Sea who is available and is not a national of one of the parties. The appointments referred to in this subparagraph shall be made from the list referred to in article 2 of this Annex within a period of 30 days of the receipt of the request and in consultation with the parties. The members so appointed shall be of different nationalities and may not be in the service of, ordinarily resident in the territory of, or nationals of, any of the parties to the dispute.
- (f) Any vacancy shall be filled in the manner prescribed for the initial appointment.
- (g) Parties in the same interest shall appoint one member of the tribunal jointly by agreement. Where there are several parties having separate interests or where there is disagreement as to whether they are of the same interest, each of them shall appoint one member of the tribunal. The number of members of the tribunal appointed separately by the parties shall always be smaller by one than the number of members of the tribunal to be appointed jointly by the parties.
- (h) In disputes involving more than two parties, the provisions of subparagraphs (a) to (f) shall apply to the maximum extent possible.

Article 4

Functions of Arbitral Tribunal

An arbitral tribunal constituted under article 3 of this Annex shall function in accordance with this Annex and the other provisions of this Convention.

Article 5

Procedure

Unless the parties to the dispute otherwise agree, the arbitral tribunal shall determine its own procedure, assuring to each party a full opportunity to be heard and to present its case.

Article 6
Duties of Parties to a Dispute

The parties to the dispute shall facilitate the work of the arbitral tribunal and, in particular, in accordance with their law and using all means at their disposal, shall:

- (a) provide it with all relevant documents, facilities and information; and
- (b) enable it when necessary to call witnesses or experts and receive their evidence and to visit the localities to which the case relates.

Article 7
Expenses

Unless the arbitral tribunal decides otherwise because of the particular circumstances of the case, the expenses of the tribunal, including the remuneration of its members, shall be borne by the parties to the dispute in equal shares.

Article 8
Required Majority for Decisions

Decisions of the arbitral tribunal shall be taken by a majority vote of its members. The absence or abstention of less than half of the members shall not constitute a bar to the tribunal reaching a decision. In the event of an equality of votes, the President shall have a casting vote.

Article 9
Default of Appearance

If one of the parties to the dispute does not appear before the arbitral tribunal or fails to defend its case, the other party may request the tribunal to continue the proceedings and to make its award. Absence of a party or failure of a party to defend its case shall not constitute a bar to the proceedings. Before making its award, the arbitral tribunal must satisfy itself not only that it has jurisdiction over the dispute but also that the claim is well founded in fact and law.

Article 10
Award

The award of the arbitral tribunal shall be confined to the subject-matter of the dispute and state the reasons on which it is based. It shall contain the names of the members who have

participated and the date of the award. Any member of the tribunal may attach a separate or dissenting opinion to the award.

Article 11

Finality of Award

The award shall be final and without appeal, unless the parties to the dispute have agreed in advance to an appellate procedure. It shall be complied with by the parties to the dispute.

Article 12

Interpretation or Implementation of Award

1. Any controversy which may arise between the parties to the dispute as regards the interpretation or manner of implementation of the award may be submitted by either party for decision to the arbitral tribunal which made the award. For this purpose, any vacancy in the tribunal shall be filled in the manner provided for in the original appointments of the members of the tribunal.
2. Any such controversy may be submitted to another court or tribunal under article 287 by agreement of all the parties to the dispute.

Article 13

Application to Entities Other than States Parties

The provisions of this Annex shall apply *mutatis mutandis* to any dispute involving entities other than States Parties.

ANNEX VIII

SPECIAL ARBITRATION

Article 1

Institution of Proceedings

Subject to Part XV, any party to a dispute concerning the interpretation or application of the articles of this Convention relating to (1) fisheries, (2) protection and preservation of the marine environment, (3) marine scientific research, or (4) navigation, including pollution from vessels and by dumping, may submit the dispute to the special arbitral procedure provided for in this Annex by written notification addressed to the other party or parties to the dispute. The notification shall be accompanied by a statement of the claim and the grounds on which it is based.

Article 2
Lists of Experts

1. A list of experts shall be established and maintained in respect of each of the fields of (1) fisheries, (2) protection and preservation of the marine environment, (3) marine scientific research, and (4) navigation, including pollution from vessels and by dumping.
2. The lists of experts shall be drawn up and maintained, in the field of fisheries by the Food and Agriculture Organization of the United Nations, in the field of protection and preservation of the marine environment by the United Nations Environment Programme, in the field of marine scientific research by the Intergovernmental Oceanographic Commission, in the field of navigation, including pollution from vessels and by dumping, by the International Maritime Organization, or in each case by the appropriate subsidiary body concerned to which such organization, programme or commission has delegated this function.
3. Every State Party shall be entitled to nominate two experts in each field whose competence in the legal, scientific or technical aspects of such field is established and generally recognized and who enjoy the highest reputation for fairness and integrity. The names of the persons so nominated in each field shall constitute the appropriate list.
4. If at any time the experts nominated by a State Party in the list so constituted shall be fewer than two, that State Party shall be entitled to make further nominations as necessary.
5. The name of an expert shall remain on the list until withdrawn by the State Party which made the nomination, provided that such expert shall continue to serve on any special arbitral tribunal to which that expert has been appointed until the completion of the proceedings before that special arbitral tribunal.

Article 3
Constitution of Special Arbitral Tribunal

For the purpose of proceedings under this Annex, the special arbitral tribunal shall, unless the parties otherwise agree, be constituted as follows:

- (a) Subject to subparagraph (g), the special arbitral tribunal shall consist of five members.
- (b) The party instituting the proceedings shall appoint two members to be chosen preferably from the appropriate list or lists referred to in article 2 of this Annex relating to the matters in dispute, one of whom may be its national. The appointments shall be included in the notification referred to in article 1 of this Annex.

- (c) The other party to the dispute shall, within 30 days of receipt of the notification referred to in article 1 of this Annex, appoint two members to be chosen preferably from the appropriate list or lists relating to the matters in dispute, one of whom may be its national. If the appointments are not made within that period, the party instituting the proceedings may, within two weeks of the expiration of that period, request that the appointments be made in accordance with subparagraph (e).
- (d) The parties to the dispute shall by agreement appoint the President of the special arbitral tribunal, chosen preferably from the appropriate list, who shall be a national of a third State, unless the parties otherwise agree. If, within 30 days of receipt of the notification referred to in article 1 of this Annex, the parties are unable to reach agreement on the appointment of the President, the appointment shall be made in accordance with subparagraph (e), at the request of a party to the dispute. Such request shall be made within two weeks of the expiration of the aforementioned 30-day period.
- (e) Unless the parties agree that the appointment be made by a person or a third State chosen by the parties, the Secretary-General of the United Nations shall make the necessary appointments within 30 days of receipt of a request under subparagraphs (c) and (d). The appointments referred to in this subparagraph shall be made from the appropriate list or lists of experts referred to in article 2 of this Annex and in consultation with the parties to the dispute and the appropriate international organization. The members so appointed shall be of different nationalities and may not be in the service of, ordinarily resident in the territory of, or nationals of, any of the parties to the dispute.
- (f) Any vacancy shall be filled in the manner prescribed for the initial appointment.
- (g) Parties in the same interest shall appoint two members of the tribunal jointly by agreement. Where there are several parties having separate interests or where there is disagreement as to whether they are of the same interest, each of them shall appoint one member of the tribunal.
- (h) In disputes involving more than two parties, the provisions of subparagraphs (a) to (f) shall apply to the maximum extent possible.

Article 4

General Provisions

Annex VII, articles 4 to 13, apply *mutatis mutandis* to the special arbitration proceedings in accordance with this Annex.

Article 5
Fact Finding

1. The parties to a dispute concerning the interpretation or application of the provisions of this Convention relating to (1) fisheries, (2) protection and preservation of the marine environment, (3) marine scientific research, or (4) navigation, including pollution from vessels and by dumping, may at any time agree to request a special arbitral tribunal constituted in accordance with article 3 of this Annex to carry out an inquiry and establish the facts giving rise to the dispute.
2. Unless the parties otherwise agree, the findings of fact of the special arbitral tribunal acting in accordance with paragraph 1, shall be considered as conclusive as between the parties.
3. If all the parties to the dispute so request, the special arbitral tribunal may formulate recommendations which, without having the force of a decision, shall only constitute the basis for a review by the parties of the questions giving rise to the dispute.
4. Subject to paragraph 2, the special arbitral tribunal shall act in accordance with the provisions of this Annex, unless the parties otherwise agree.

ANNEX IX
PARTICIPATION BY INTERNATIONAL ORGANIZATIONS

Article 1
Use of Terms

For the purposes of article 305 and of this Annex, "international organization" means an intergovernmental organization constituted by States to which its member States have transferred competence over matters governed by this Convention, including the competence to enter into treaties in respect of those matters.

Article 2
Signature

An international organization may sign this Convention if a majority of its member States are signatories of this Convention. At the time of signature an international organization shall make a declaration specifying the matters governed by this Convention in respect of which competence has been transferred to that organization by its member States which are signatories, and the nature and extent of that competence.

Article 3

Formal Confirmation and Accession

1. An international organization may deposit its instrument of formal confirmation or of accession if a majority of its member States deposit or have deposited their instruments of ratification or accession.
2. The instruments deposited by the international organization shall contain the undertakings and declarations required by articles 4 and 5 of this Annex.

Article 4

Extent of Participation and Rights and Obligations

1. The instrument of formal confirmation or of accession of an international organization shall contain an undertaking to accept the rights and obligations of States under this Convention in respect of matters relating to which competence has been transferred to it by its member States which are Parties to this Convention.
2. An international organization shall be a Party to this Convention to the extent that it has competence in accordance with the declarations, communications of information or notifications referred to in article 5 of this Annex.
3. Such an international organization shall exercise the rights and perform the obligations which its member States which are Parties would otherwise have under this Convention, on matters relating to which competence has been transferred to it by those member States. The member States of that international organization shall not exercise competence which they have transferred to it.
4. Participation of such an international organization shall in no case entail an increase of the representation to which its member States which are States Parties would otherwise be entitled, including rights in decision-making.
5. Participation of such an international organization shall in no case confer any rights under this Convention on member States of the organization which are not States Parties to this Convention.
6. In the event of a conflict between the obligations of an international organization under this Convention and its obligations under the agreement establishing the organization or any acts relating to it, the obligations under this Convention shall prevail.

Article 5

Declarations, Notifications and Communications

1. The instrument of formal confirmation or of accession of an international organization shall contain a declaration specifying the matters governed by this Convention in respect of which competence has been transferred to the organization by its member States which are Parties to this Convention.
2. A member State of an international organization shall, at the time it ratifies or accedes to this Convention or at the time when the organization deposits its instrument of formal confirmation or of accession, whichever is later, make a declaration specifying the matters governed by this Convention in respect of which it has transferred competence to the organization.
3. States Parties which are member States of an international organization which is a Party to this Convention shall be presumed to have competence over all matters governed by this Convention in respect of which transfers of competence to the organization have not been specifically declared, notified or communicated by those States under this article.
4. The international organization and its member States which are States Parties shall promptly notify the depositary of this Convention of any changes to the distribution of competence, including new transfers of competence, specified in the declarations under paragraphs 1 and 2.
5. Any State Party may request an international organization and its member States which are States Parties to provide information as to which, as between the organization and its member States, has competence in respect of any specific question which has arisen. The organization and the member States concerned shall provide this information within a reasonable time. The international organization and the member States may also, on their own initiative, provide this information.
6. Declarations, notifications and communications of information under this article shall specify the nature and extent of the competence transferred.

Article 6

Responsibility and Liability

1. Parties which have competence under article 5 of this Annex shall have responsibility for failure to comply with obligations or for any other violation of this Convention.
 2. Any State Party may request an international organization or its member States which are States Parties for information as to who has responsibility in respect of any specific
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matter. The organization and the member States concerned shall provide this information. Failure to provide this information within a reasonable time or the provision of contradictory information shall result in joint and several liability.

Article 7
Settlement of Disputes

1. At the time of deposit of its instrument of formal confirmation or of accession, or at any time thereafter, an international organization shall be free to choose, by means of a written declaration, one or more of the means for the settlement of disputes concerning the interpretation or application of this Convention, referred to in article 287, paragraph 1(a), (c) or (d).
2. Part XV applies *mutatis mutandis* to any dispute between Parties to this Convention, one or more of which are international organizations.
3. When an international organization and one or more of its member States are joint parties to a dispute, or parties in the same interest, the organization shall be deemed to have accepted the same procedures for the settlement of disputes as the member States; when, however, a member State has chosen only the International Court of Justice under article 287, the organization and the member State concerned shall be deemed to have accepted arbitration in accordance with Annex VII, unless the parties to the dispute otherwise agree.

Article 8
Applicability of Part XVII

Part XVII applies *mutatis mutandis* to an international organization, except in respect of the following:

- (a) the instrument of formal confirmation or of accession of an international organization shall not be taken into account in the application of article 308, paragraph 1;
- (b)
 - (i) an international organization shall have exclusive capacity with respect to the application of articles 312 to 315, to the extent that it has competence under article 5 of this Annex over the entire subject-matter of the amendment;
 - (ii) the instrument of formal confirmation or of accession of an international organization to an amendment, the entire subject-matter over which the international organization has competence under article 5 of this Annex, shall be considered to be the instrument

of ratification or accession of each of the member States which are States Parties, for the purposes of applying article 316, paragraphs 1, 2 and 3;

(iii) the instrument of formal confirmation or of accession of the international organization shall not be taken into account in the application of article 316, paragraphs 1 and 2, with regard to all other amendments;

(c)

(i) an international organization may not denounce this Convention in accordance with article 317 if any of its member States is a State Party and if it continues to fulfil the qualifications specified in article 1 of this Annex;

(ii) an international organization shall denounce this Convention when none of its member States is a State Party or if the international organization no longer fulfils the qualifications specified in article 1 of this Annex. Such denunciation shall take effect immediately.

**PROTOCOL OF 1978 RELATING TO THE INTERNATIONAL CONVENTION FOR
THE PREVENTION OF POLLUTION FROM SHIPS 1973
("MARPOL CONVENTION")**

Date and Place of Adoption of the Convention : 17th February 1978, London

Date of Entry into Force of the Convention : 2nd October 1983

Date of Accession of Brunei Darussalam (with
the exception of Annexes III, IV and V of the
Convention) : 23rd October 1986

Date of Entry into Force for Brunei Darussalam : 23rd January 1987

Reservations / Declarations:

"In accordance with article 14 the Government of Brunei Darussalam hereby
DECLARES that it does not accept Annexes III, IV and V to the Convention."

Applicable Legislation as of 19th January 2013 :

- i. Prevention of Pollution of the Sea Order, 2005
- ii. Prevention of Pollution of the Sea (Authorised Organisations) Regulations, 2008
- iii. Prevention of Pollution of the Sea (Compoundable Offences) Regulations, 2008
- iv. Prevention of Pollution of the Sea (Garbage) Regulations, 2008
- v. Prevention of Pollution of the Sea (Noxious Liquid Substances in Bulk) Regulations, 2008
- vi. Prevention of Pollution of the Sea (Oil) Regulations, 2008
- vii. Prevention of Pollution of the Sea (Reporting of Pollution Incidents) Regulations, 2008

Executive Summary:

The original 1973 Convention did not come into force by the time the 1978 Protocol was adopted and was absorbed by the latter during its adoption. The current Convention is therefore a combination of both the 1973 Convention and the 1978 Protocol.

The MARPOL Convention, as it is more commonly known, is one of the main international conventions that deal with the protection of the seas and the marine environment from oil pollution from ships. Like the SOLAS Convention, member states have to comply with a number of minimum standards for the prevention of pollution from ships, by noxious liquid substances in bulk, by harmful substances carried in packaged forms by ships, by sewage from ships, garbage from ships and by air pollution from ships.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Source of Text: <http://treaties.un.org/doc/Publication/UNTS/Volume%201340/volume-1340-I-22484-English.pdf>

The Parties to the present Protocol,

Recognizing the significant contribution which can be made by the International Convention for the Prevention of Pollution from Ships, 1973, to the protection of the marine environment from pollution from ships,

Recognizing also the need to improve further the prevention and control of marine pollution from ships, particularly oil tankers,

Recognizing further the need for implementing the Regulations for the Prevention of Pollution by Oil contained in Annex I of that Convention as early and as widely as possible,

Acknowledging however the need to defer the application of Annex II of that Convention until certain technical problems have been satisfactorily resolved,

Considering that these objectives may best be achieved by the conclusion of a Protocol relating to the International Convention for the Prevention of Pollution from Ships, 1973,

Have agreed as follows:

Article I
General Obligations

1. The Parties to the present Protocol undertake to give effect to the provisions of:
 - a. The present Protocol and the Annex hereto which shall constitute an integral part of the present Protocol; and
 - b. The International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as "the Convention"), subject to the modification and additions set out in the present Protocol.
2. The provisions of the Convention and the present Protocol shall be read and interpreted together as one single instrument.
3. Every reference to the present Protocol constitutes at the same time a reference to the Annex hereto.

Article II
Implementation of Annex II of The Convention

1. Notwithstanding the provisions of Article 14(1) of the Convention, the Parties to the present Protocol agree that they shall not be bound by the provisions of Annex II of the Convention for a period of three years from the date of entry into force of the present Protocol or for such longer period as may be decided by a two-thirds majority of the Parties to the present Protocol in the Marine Environment Protection Committee (hereinafter referred to as "the Committee") of the Inter-Governmental Maritime Consultative Organization (hereinafter referred to as "the Organization").
2. During the period specified in paragraph 1 of this Article, the Parties to the present Protocol shall not be under any obligations nor entitled to claim any privileges under the Convention in respect of matters relating to Annex II of the Convention and all reference to Parties in the Convention shall not include the Parties to the present Protocol in so far as matters relating to that Annex are concerned.

Article III
Communication of Information

The text of Article 11(1)(b) of the Convention is replaced by the following: "A list of nominated surveyors or recognized organizations which are authorized to act on their behalf in the administration of matters relating to the design, construction, equipment and operation of ships carrying harmful substances in accordance with the provisions of the Regulations for circulation to the Parties for information of their officers. The Administration shall therefore notify the Organization of the specific responsibilities and conditions of the authority delegated to nominated surveyors or recognized organizations."

Article IV
Signature, Ratification, Acceptance, Approval and Accession

1. The present Protocol shall be open for signature at the Headquarters of the Organization from 1 June 1978 to 31 May 1979 and shall thereafter remain open for accession. States may become Parties to the present Protocol by:
 - a. Signature without reservation as to ratification, acceptance or approval; or
 - b. Signature, subject to ratification, acceptance or approval, followed by ratification, acceptance or approval; or
 - c. Accession.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

2. Ratification, acceptance, approval or accession shall be effected by the deposit of an instrument to that effect with the Secretary-General of the Organization.

Article V
Entry Into Force

1. The present Protocol shall enter into force twelve months after the date on which not less than fifteen States, the combined merchant fleets of which constitute not less than fifty per cent of the gross tonnage of the world's merchant shipping, have become Parties to it in accordance with Article IV of the present Protocol.
2. Any instrument of ratification, acceptance, approval or accession deposited after the date on which the present Protocol enters into force shall take effect three months after the date of deposit.
3. After the date on which an amendment to the present Protocol is deemed to have been accepted in accordance with Article 16 of the Convention, any instrument of ratification, acceptance, approval or accession deposited shall apply to the present Protocol as amended.

Article VI
Amendments

The procedures set out in Article 16 of the Convention in respect of amendments to the Articles, an Annex and an Appendix to an Annex of the Convention shall apply respectively to amendments to the Articles, the Annex and an Appendix to the Annex of the present Protocol.

Article VII
Denunciation

1. The present Protocol may be denounced by any Party to the present Protocol at any time after the expiry of five years from the date on which the Protocol enters into force for that Party.
2. Denunciation shall be effected by the deposit of an instrument of denunciation with the Secretary-General of the Organization.
3. A denunciation shall take effect twelve months after receipt of the notification by the Secretary-General of the Organization or after the expiry of any other longer period which may be indicated in the notification.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Article VIII
Depositary

1. The present Protocol shall be deposited with the Secretary-General of the Organization (hereinafter referred to as "the Depositary").
2. The Depositary shall:
 - (1) Inform all States which have signed the present Protocol or acceded thereto of:
 - (i) Each new signature or deposit of an instrument of ratification, acceptance, approval or accession, together with the date thereof;
 - (ii) The date of entry into force of the present Protocol;
 - (iii) The deposit of any instrument of denunciation of the present Protocol together with the date on which it was received and the date on which the denunciation takes effect;
 - (iv) Any decision made in accordance with Article 11(1) of the present Protocol;
 - (2) Transmit certified true copies of the present Protocol to all States which have signed the present Protocol or acceded thereto.
3. As soon as the present Protocol enters into force, a certified true copy thereof shall be transmitted by the Depositary to the Secretariat of the United Nations for registration and publication in accordance with Article 102 of the Charter of the United Nations.

Article IX
Languages

The present Protocol is established in a single original in the English, French, Russian and Spanish languages, each text being equally authentic. Official translations in the Arabic, German, Italian and Japanese languages shall be prepared and deposited with the signed original.

IN WITNESS WHEREOF the undersigned being duly authorized by their respective Governments for that purpose have signed the present Protocol.

DONE at London this seventeenth day of February one thousand nine hundred and seventy-eight.

**ANNEX
MODIFICATIONS AND ADDITIONS TO THE INTERNATIONAL CONVENTION
FOR THE PREVENTION OF POLLUTION FROM SHIPS, 1973**

**ANNEX I
REGULATIONS FOR THE PREVENTION OF POLLUTION BY OIL**

**Regulation 1
Definitions**

Paragraphs (1) to (7): No change.

The existing text of paragraph (8) is replaced by the following:

(8)

(a) "Major conversion" means a conversion of an existing ship:

(i) Which substantially alters the dimensions or carrying capacity of the ship; or

(ii) Which changes the type of the ship; or

(iii) The intent of which in the opinion of the Administration is substantially to prolong its life; or

(iv) Which otherwise so alters the ship that, if it were a new ship, it would become subject to relevant provisions of the present Protocol not applicable to it as an existing ship.

(b) Notwithstanding the provisions of sub-paragraph (a) of this paragraph, conversion of an existing oil tanker of 20,000 tons dead-weight and above to meet the requirements of Regulation 13 of this Annex shall not be deemed to constitute a major conversion for the purposes of this Annex.

Paragraphs (9) to (22): No change.

The existing text of paragraph (23) is replaced by the following:

(23) "Lightweight" means the displacement of a ship in metric tons without cargo, fuel, lubricating oil, ballast water, fresh water and feed water in tanks, consumable stores, and passengers and crew and their effects.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Paragraphs (24) and (25): No change.

The following paragraphs are added to the existing text:

(26) Notwithstanding the provisions of paragraph (6) of this Regulation, for the purposes of Regulations 13, 13B, 13E and 18(5) of this Annex, "new oil tanker" means an oil tanker:

- (a) For which the building contract is placed after 1 June 1979; or
- (b) In the absence of a building contract, the keel of which is laid, or which is at a similar stage of construction after 1 January 1980; or
- (c) The delivery of which is after 1 June 1982; or
- (d) Which has undergone a major conversion:
 - (i) For which the contract is placed after 1 June 1979; or
 - (ii) In the absence of a contract, the construction work of which is begun after 1 January 1980; or
 - (iii) Which is completed after 1 June 1982,

except that, for oil tankers of 70,000 tons deadweight and above, the definition in paragraph (6) of this Regulation shall apply for the purposes of Regulation 13(1) of this Annex.

(27) Notwithstanding the provisions of paragraph (7) of this Regulation, for the purposes of Regulations 13, 13A, 13B, 13C, 13D and 18(6) of this Annex, "existing oil tanker" means an oil tanker which is not a new oil tanker as defined in paragraph (26) of this Regulation.

(28) "Crude oil" means any liquid hydrocarbon mixture occurring naturally in the earth whether or not treated to render it suitable for transportation and includes:

- (a) Crude oil from which certain distillate fractions may have been removed; and
- (b) Crude oil to which certain distillate fractions may have been added.

(29) "Crude oil tanker" means an oil tanker engaged in the trade of carrying crude oil.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (30) "Product carrier" means an oil tanker engaged in the trade of carrying oil other than crude oil.

Regulations 2 and 3: No Change

Regulation 4

The existing text of Regulation 4 is replaced by the following:

SURVEYS AND INSPECTIONS

- (1) Every oil tanker of 150 tons gross tonnage and above, and every other ship of 400 tons gross tonnage and above shall be subject to the surveys specified below:
- (a) An initial survey before the ship is put in service or before the Certificate required under Regulation 5 of this Annex is issued for the first time, which shall include a complete survey of its structure, equipment, systems, fittings, arrangements and material in so far as the ship is covered by this Annex. This survey shall be such as to ensure that the structure, equipment, systems, fittings, arrangements and material fully comply with the applicable requirements of this Annex.
 - (b) Periodical surveys at intervals specified by the Administration, but not exceeding five years, which shall be such as to ensure that the structure, equipment, systems, fittings, arrangements and material fully comply with the requirements of this Annex.
 - (c) A minimum of one intermediate survey during the period of validity of the Certificate which shall be such as to ensure that the equipment and associated pump and piping systems, including oil discharge monitoring and control systems, crude oil washing systems, oily-water separating equipment and oil filtering systems, fully comply with the applicable requirements of this Annex and are in good working order. In cases where only one such intermediate survey is carried out in any one Certificate validity period, it shall be held not before six months prior to, nor later than six months after the half-way date of the Certificate's period of validity. Such intermediate surveys shall be endorsed on the Certificate issued under Regulation 5 of this Annex.
- (2) The Administration shall establish appropriate measures for ships which are not subject to the provisions of paragraph (1) of this Regulation in order to ensure that the applicable provisions of this Annex are complied with.
- (3)
- (a) Surveys of ships as regards the enforcement of the provisions of this Annex shall be carried out by officers of the Administration. The Administration may, however, entrust
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BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

the surveys either to surveyors nominated for the purpose or to organizations recognized by it.

- (b) The Administration shall institute arrangements for unscheduled inspections to be carried out during the period of validity of the Certificate. Such inspections shall ensure that the ship and its equipment remain in all respects satisfactory for the service for which the ship is intended. These inspections may be carried out by their own inspection services, or by nominated surveyors or by recognized organizations, or by other Parties upon request of the Administration. Where the Administration, under the provisions of paragraph (1) of this Regulation, establishes mandatory annual surveys, the above unscheduled inspections shall not be obligatory.
- (c) An Administration nominating surveyors or recognizing organizations to conduct surveys and inspections as set forth in sub-paragraphs (a) and (b) of this paragraph, shall as a minimum empower any nominated surveyor or recognized organization to:
 - (i) Require repairs to a ship; and
 - (ii) Carry out surveys and inspections if requested by the appropriate authorities of a Port State.

The Administration shall notify the Organization of the specific responsibilities and conditions of the authority delegated to the nominated surveyors or recognized organizations, for circulation to Parties to the present Protocol for the information of their officers.

- (d) When a nominated surveyor or recognized organization determines that the condition of the ship or its equipment does not correspond substantially with the particulars of the Certificate or is such that the ship is not fit to proceed to sea without presenting an unreasonable threat of harm to the marine environment, such surveyor or organization shall immediately ensure that corrective action is taken and shall in due course notify the Administration. If such corrective action is not taken the Certificate should be withdrawn and the Administration shall be notified immediately; and if the ship is in a port of another Party, the appropriate authorities of the Port State shall also be notified immediately. When an officer of the Administration, a nominated surveyor or recognized organization has notified the appropriate authorities of the Port State, the Government of the Port State concerned shall give such officer, surveyor or organization any necessary assistance to carry out their obligations under this Regulation. When applicable, the Government of the Port State concerned shall take such steps as will ensure that the ship shall not sail until it can proceed to sea or leave the port for the purpose of proceeding to the nearest appropriate repair yard available without presenting an unreasonable threat of harm to the marine environment.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (e) In every case, the Administration concerned shall fully guarantee the completeness and efficiency of the survey and inspection and shall undertake to ensure the necessary arrangements to satisfy this obligation.

- (4)
- (a) The condition of the ship and its equipment shall be maintained to conform with the provisions of the present Protocol to ensure that the ship in all respects will remain fit to proceed to sea without presenting an unreasonable threat of harm to the marine environment.

- (b) After any survey of the ship under paragraph (1) of this Regulation has been completed, no change shall be made in the structure, equipment, systems, fittings, arrangements or material covered by the survey, without the sanction of the Administration, except the direct replacement of such equipment and fittings.

- (c) Whenever an accident occurs to a ship or a defect is discovered which substantially affects the integrity of the ship or the efficiency or completeness of its equipment covered by this Annex the master or owner of the ship shall report at the earliest opportunity to the Administration, the recognized organization or the nominated surveyor responsible for issuing the relevant Certificate, who shall cause investigations to be initiated to determine whether a survey as required by paragraph (1) of this Regulation is necessary. If the ship is in a port of another Party, the master or owner shall also report immediately to the appropriate authorities of the Port State and the nominated surveyor or recognized organization shall ascertain that such report has been made.

Regulations 5, 6 and 7

In the existing text of these Regulations, delete all references to "(1973)" in relation to the International Oil Pollution Prevention Certificate.

Regulation 8. Duration of Certificate

The existing text of Regulation 8 is replaced by the following:

- (1) An International Oil Pollution Prevention Certificate shall be issued for a period specified by the Administration, which shall not exceed five years from the date of issue, provided that in the case of an oil tanker operating with dedicated clean ballast tanks for a limited period specified in Regulation 13(9) of this Annex, the period of validity of the Certificate shall not exceed such specified period.

- (2) A Certificate shall cease to be valid if significant alterations have taken place in the construction, equipment, systems, fittings, arrangements or material required without the

sanction of the Administration, except the direct replacement of such equipment or fittings, or if intermediate surveys as specified by the Administration under Regulation 4(1)(c) of this Annex are not carried out.

- (3) A Certificate issued to a ship shall also cease to be valid upon transfer of the ship to the flag of another State. A new Certificate shall only be issued when the Government issuing the new Certificate is fully satisfied that the ship is in full compliance with the requirements of Regulation 4(4)(a) and (b) of this Annex. In the case of a transfer between Parties, if requested within three months after the transfer has taken place, the Government of the Party whose flag the ship was formerly entitled to fly shall transmit as soon as possible to the Administration a copy of the Certificate carried by the ship before the transfer and, if available, a copy of the relevant survey report.

Regulations 9 to 12: No Change

The existing text of Regulation 13 is replaced by the following Regulations:

Regulation 13

Segregated Ballast Tanks, Dedicated Clean Ballast Tanks and Crude Oil Washing

Subject to the provisions of Regulations 13C and 13D of this Annex, oil tankers shall comply with the requirements of this Regulation.

New oil tankers of 20,000 tons deadweight and above

- (1) Every new crude oil tanker of 20,000 tons deadweight and above and every new product carrier of 30,000 tons deadweight and above shall be provided with segregated ballast tanks and shall comply with paragraphs (2), (3) and (4), or paragraph (5) as appropriate, of this Regulation.
- (2) The capacity of the segregated ballast tanks shall be so determined that the ship may operate safely on ballast voyages without recourse to the use of cargo tanks for water ballast except as provided for in paragraph (3) or (4) of this Regulation. In all cases, however, the capacity of segregated ballast tanks shall be at least such that, in any ballast condition at any part of the voyage, including the conditions consisting of lightweight plus segregated ballast only, the ship's draughts and trim can meet each of the following requirements:
- (a) The moulded draught amidships (dm) in metres (without taking into account any ship's deformation) shall not be less than: $dm = 2.0 + 0.02L$;

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (b) The draughts at the forward and after perpendiculars shall correspond to those determined by the draught amidships (dm) as specified in sub-paragraph (a) of this paragraph, in association with the trim by the stern of not greater than 0.015L; and
- (c) In any case the draught at the after perpendicular shall not be less than that which is necessary to obtain full immersion of the propeller(s).
- (3) In no case shall ballast water be carried in cargo tanks except on those rare voyages when weather conditions are so severe that, in the opinion of the master, it is necessary to carry additional ballast water in cargo tanks for the safety of the ship. Such additional ballast water shall be processed and discharged in compliance with Regulation 9 of this Annex and in accordance with the requirements of Regulation 15 of this Annex and entry shall be made in the Oil Record Book referred to in Regulation 20 of this Annex.
- (4) In the case of new crude oil tankers, the additional ballast permitted in paragraph (3) of this Regulation shall be carried in cargo tanks only if such tanks have been crude oil washed in accordance with Regulation 13B of this Annex before departure from an oil unloading port or terminal.
- (5) Notwithstanding the provisions of paragraph (2) of this Regulation, the segregated ballast conditions for oil tankers less than 150 metres in length shall be to the satisfaction of the Administration.
- (6) Every new crude oil tanker of 20,000 tons deadweight and above shall be fitted with a cargo tank cleaning system using crude oil washing. The Administration shall undertake to ensure that the system fully complies with the requirements of Regulation 13B of this Annex within one year after the tanker was first engaged in the trade of carrying crude oil or by the end of the third voyage carrying crude oil suitable for crude oil washing, whichever occurs later. Unless such oil tanker carries crude oil which is not suitable for crude oil washing, the oil tanker shall operate the system in accordance with the requirements of that Regulation.

Existing crude oil tankers of 40,000 tons deadweight and above

- (7) Subject to the provisions of paragraphs (8) and (9) of this Regulation every existing crude oil tanker of 40,000 tons deadweight and above shall be provided with segregated ballast tanks and shall comply with the requirements of paragraphs (2) and (3) of this Regulation from the date of entry into force of the present Protocol.
- (8) Existing crude oil tankers referred to in paragraph (7) of this Regulation may, in lieu of being provided with segregated ballast tanks, operate with a cargo tank cleaning procedure using crude oil washing in accordance with Regulation 13B of this Annex unless the crude oil tanker is intended to carry crude oil which is not suitable for crude oil washing.
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BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

(9) Existing crude oil tankers referred to in paragraph (7) or (8) of this Regulation may, in lieu of being provided with segregated ballast tanks or operating with a cargo tank cleaning procedure using crude oil washing, operate with dedicated clean ballast tanks in accordance with the provisions of Regulation 13A of this Annex for the following period:

- (a) For crude oil tankers of 70,000 tons deadweight and above, until two years after the date of entry into force of the present Protocol; and
- (b) For crude oil tankers of 40,000 tons deadweight and above but below 70,000 tons deadweight, until four years after the date of entry into force of the present Protocol.

Existing product carriers of 40,000 tons deadweight and above

(10) From the date of entry into force of the present Protocol, every existing product carrier of 40,000 tons deadweight and above shall be provided with segregated ballast tanks and shall comply with the requirements of paragraphs (2) and (3) of this Regulation, or, alternatively, operate with dedicated clean ballast tanks in accordance with the provisions of Regulation 13A of this Annex.

An oil tanker qualified as a segregated ballast oil tanker

(11) Any oil tanker which is not required to be provided with segregated ballast tanks in accordance with paragraph (1), (7) or (10) of this Regulation may, however, be qualified as a segregated ballast tanker, provided that it complies with the requirements of paragraphs (2) and (3), or paragraph (5) as appropriate, of this Regulation.

Regulation 13A

Requirements for Oil Tankers with Dedicated Clean Ballast Tanks

- (1) An oil tanker operating with dedicated clean ballast tanks in accordance with the provisions of Regulation 13(9) or (10) of this Annex, shall have adequate tank capacity, dedicated solely to the carriage of clean ballast as defined in Regulation 1(16) of this Annex, to meet the requirements of Regulation 13(2) and (3) of this Annex.
 - (2) The arrangements and operational procedures for dedicated clean ballast tanks shall comply with the requirements established by the Administration. Such requirements shall contain at least all the provisions of the Specifications for Oil Tankers with Dedicated Clean Ballast Tanks adopted by the International Conference on Tanker Safety and Pollution Prevention, 1978, in Resolution 14 and as may be revised by the Organization.
 - (3) An oil tanker operating with dedicated clean ballast tanks shall be equipped with an oil content meter, approved by the Administration on the basis of specifications
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recommended by the Organization¹, to enable supervision of the oil content in ballast water being discharged. The oil content meter shall be installed no later than at the first scheduled shipyard visit of the tanker following the entry into force of the present Protocol. Until such time as the oil content meter is installed, it shall immediately before discharge of ballast be established by examination of the ballast water from dedicated tanks that no contamination with oil has taken place.

- (4) Every oil tanker operating with dedicated clean ballast tanks shall be provided with:
- (a) A Dedicated Clean Ballast Tank Operation Manual detailing the system and specifying operational procedures. Such a Manual shall be to the satisfaction of the Administration and shall contain all the information set out in the Specifications referred to in paragraph (2) of this Regulation. If an alteration affecting the dedicated clean ballast tank system is made, the Operation Manual shall be revised accordingly; and
 - (b) A Supplement to the Oil Record Book referred to in Regulation 20 of this Annex as set out in Supplement 1 to Appendix III of this Annex. The Supplement shall be permanently attached to the Oil Record Book.

Regulation 13B
Requirements for Crude Oil Washing

- (1) Every crude oil washing system required to be provided in accordance with Regulation 13(6) and (8) of this Annex shall comply with the requirements of this Regulation.
- (2) The crude oil washing installation and associated equipment and arrangements shall comply with the requirements established by the Administration. Such requirements shall contain at least all the provisions of the Specifications for the Design, Operation and Control of Crude Oil Washing Systems adopted by the International Conference on Tanker Safety and Pollution Prevention, 1978, in Resolution 15 and as may be revised by the Organization.
- (3) An inert gas system shall be provided in every cargo tank and slop tank in accordance with the appropriate Regulations of Chapter II-2 of the International Convention for the Safety of Life at Sea, 1974,² as modified and added to by the Protocol of 1978 Relating to the International Convention for the Safety of Life at Sea, 1974.³

¹ Reference is made to the Recommendation on International Performance and Test Specifications for Oily-Water Separating Equipment and Oil Content Meters adopted by the Organization by Resolution A.393(X).

² United Nations, *Treaty Series*, vol. 1184, p. 2.

³ *Ibid.*, vol. 1226, p. 213.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (4) With respect to the ballasting of cargo tanks, sufficient cargo tanks shall be crude oil washed prior to each ballast voyage in order that, taking into account the tanker's trading pattern and expected weather conditions, ballast water is put only into cargo tanks which have been crude oil washed.
- (5) Every oil tanker operating with crude oil washing systems shall be provided with:
- (a) An Operations and Equipment Manual detailing the system and equipment and specifying operational procedures. Such a Manual shall be to the satisfaction of the Administration and shall contain all the information set out in the Specifications referred to in paragraph (2) of this Regulation. If an alteration affecting the crude oil washing system is made, the Operations and Equipment Manual shall be revised accordingly; and
 - (b) A Supplement to the Oil Record Book referred to in Regulation 20 of this Annex as set out in Supplement 2 to Appendix III of this Annex. The Supplement shall be permanently attached to the Oil Record Book.

Regulation 13C

Existing Tankers Engaged in Specific Trades

- (1) Subject to the provisions of paragraphs (2) and (3) of this Regulation, Regulation 13(7) to (10) of this Annex shall not apply to an existing oil tanker solely engaged in specific trades between:
- (a) Ports or terminals within a State Party to the present Protocol; or
 - (b) Ports or terminals of States Parties to the present Protocol, where:
 - (i) The voyage is entirely within a Special Area as defined in Regulation 10(1) of this Annex; or
 - (ii) The voyage is entirely within other limits designated by the Organization.
- (2) The provisions of paragraph (1) of this Regulation shall only apply when the ports or terminals where cargo is loaded on such voyages are provided with reception facilities adequate for the reception and treatment of all the ballast and tank washing water from oil tankers using them and all the following conditions are complied with:
- (a) Subject to the exceptions provided for in Regulation 11 of this Annex, all ballast water, including clean ballast water, and tank washing residues are retained on board and transferred to the reception facilities and the entry in the appropriate Sections of

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- the Supplement to the Oil Record Book referred to in paragraph (3) of this Regulation is endorsed by the competent Port State authority;
- (b) Agreement has been reached between the Administration and the Governments of the Port States referred to in subparagraph (1)(a) or (b) of this Regulation concerning the use of an existing oil tanker for a specific trade;
 - (c) The adequacy of the reception facilities in accordance with the relevant provisions of this Annex at the ports or terminals referred to above, for the purpose of this Regulation, is approved by the Governments of the States Parties to the present Protocol within which such ports or terminals are situated; and
 - (d) The International Oil Pollution Prevention Certificate is endorsed to the effect that the oil tanker is solely engaged in such specific trade.
- (3) Every oil tanker engaged in a specific trade shall be provided with a Supplement to the Oil Record Book referred to in Regulation 20 of this Annex as set out in Supplement 3 to Appendix III of this Annex. The Supplement shall be permanently attached to the Oil Record Book.

Regulation 13D

Existing Oil Tankers Having Special Ballast Arrangements

- (1) Where an existing oil tanker is so constructed or operates in such a manner that it complies at all times with the draught and trim requirements set out in Regulation 13(2) of this Annex without recourse to the use of ballast water, it shall be deemed to comply with the segregated ballast tank requirements referred to in Regulation 13(7) of this Annex, provided that all of the following conditions are complied with:
 - (a) Operational procedures and ballast arrangements are approved by the Administration;
 - (b) Agreement is reached between the Administration and the Governments of the Port States Parties to the present Protocol concerned when the draught and trim requirements are achieved through an operational procedure; and
 - (c) The International Oil Pollution Prevention Certificate is endorsed to the effect that the oil tanker is operating with special ballast arrangements.
- (2) In no case shall ballast water be carried in oil tanks except on those rare voyages when weather conditions are so severe that, in the opinion of the master, it is necessary to carry additional ballast water in cargo tanks for the safety of the ship. Such additional ballast

water shall be processed and discharged in compliance with Regulation 9 of this Annex and in accordance with the requirements of Regulation 15 of this Annex, and entry shall be made in the Oil Record Book referred to in Regulation 20 of this Annex.

- (3) An Administration which has endorsed a Certificate in accordance with subparagraph (1)(c) of this Regulation shall communicate to the Organization the particulars thereof for circulation to the Parties to the present Protocol.

Regulation 13E

Protective Location of Segregated Ballast Spaces

- (1) In every new crude oil tanker of 20,000 tons deadweight and above and every new product carrier of 30,000 tons deadweight and above, the segregated ballast tanks required to provide the capacity to comply with the requirements of Regulation 13 of this Annex which are located within the cargo tank length, shall be arranged in accordance with the requirements of paragraphs (2), (3) and (4) of this Regulation to provide a measure of protection against oil outflow in the event of grounding or collision.
- (2) Segregated ballast tanks and spaces other than oil tanks within the cargo tank length (L_t) shall be so arranged as to comply with the following requirement:

$$\sum PA_C + \sum PA_S \geq J[L_t (B + 2D)]$$

where:

PA_C = the side shell area in square metres for each segregated ballast tank or space other than an oil tank based on projected moulded dimensions,

PA_S = the bottom shell area in square metres for each such tank or space based on projected moulded dimensions,

L_t = length in metres between the forward and after extremities of the cargo tanks,

B = maximum breadth of the ship in metres as defined in Regulation 1(21) of this Annex,

D = moulded depth in metres measured vertically from the top of the keel to the top of the freeboard deck beam at side amidships. In ships having rounded gunwales, the moulded depth shall be measured to the point of intersection of the moulded lines of the deck and side shell plating, the lines extending as though the gunwale were of angular design,

J = 0.45 for oil tankers of 20,000 tons deadweight 0.30 for oil tankers of 200,000 tons deadweight and above, subject to the provisions of paragraph (3) of this Regulation.

For intermediate values of deadweight the value of "J" shall be determined by linear interpolation.

Whenever symbols given in this paragraph appear in this Regulation, they have the meaning as defined in this paragraph.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (3) For tankers of 200,000 tons deadweight and above the value of "J" may be reduced as follows:

$$J \text{ reduced} = [J - (a - \frac{O_C + O_S}{4 O_A})] \text{ or } 0.2 \text{ whichever is greater}$$

where:

a = 0.25 for oil tankers of 200,000 tons deadweight

a = 0.40 for oil tankers of 300,000 tons deadweight

a = 0.50 for oil tankers of 420,000 tons deadweight and above,

For intermediate values of deadweight the value of "a" shall be determined by linear interpolation.

O_C = as defined in Regulation 23(1)(a) of this Annex,

O_S = as defined in Regulation 23(1)(b) of this Annex,

O_A = the allowable oil outflow as required by Regulation 24(2) of this Annex.

- (4) In the determination of "PAC" and "PAS" for segregated ballast tanks and spaces other than oil tanks the following shall apply:

- (a) The minimum width of each wing tank or space either of which extends for the full depth of the ship's side or from the deck to the top of the double bottom shall be not less than 2 metres. The width shall be measured inboard from the ship's side at right angles to the centre line. Where a lesser width is provided the wing tank or space shall not be taken into account when calculating the protecting area "PAC"; and
- (b) The minimum vertical depth of each double bottom tank or space shall be B/15 or 2 metres, whichever is the lesser. Where a lesser depth is provided the bottom tank or space shall not be taken into account when calculating the protecting area "PAS".

The minimum width and depth of wing tanks and double bottom tanks shall be measured clear of the bilge area and, in the case of minimum width, shall be measured clear of any rounded gunwale area.

Regulation 14: No Change

Regulation 15

In the existing text of this Regulation, delete reference to "(1973)" in relation to the International Oil Pollution Prevention Certificate.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Regulations 16 and 17: No Change

Regulation 18. Pumping, Piping and Discharge Arrangements of Oil Tankers

Paragraphs (1) to (4): No change.

The following paragraphs are added to the existing text:

- (5) Every new oil tanker required to be provided with segregated ballast tanks, or fitted with a crude oil washing system shall comply with the following requirements:
- (a) It shall be equipped with oil piping so designed and installed such that oil retention in the lines is minimized; and
 - (b) Means shall be provided to drain all cargo pumps and all oil lines at the completion of cargo discharge, where necessary by connexion to a stripping device. The line and pump drainings shall be capable of being discharged both ashore and to a cargo tank or a slop tank. For discharge ashore a special small diameter line shall be provided for that purpose and connected outboard of the ship's manifold valves.
- (6) Every existing crude oil carrier required to be provided with segregated ballast tanks, or fitted with a crude oil washing system or operated with dedicated clean ballast tanks, shall comply with the provisions of paragraph (5)(b) of this Regulation.

Regulation 19: No Change

Regulation 20

In the existing text of this Regulation, delete reference to "(1973)" in relation to the International Oil Pollution Prevention Certificate.

Regulations 21 to 25: No Change

Appendix I List of Oils: No Change

Appendix II

Form of Certificate

(Access via <http://treaties.un.org/doc/Publication/UNTS/Volume%201340/volume-1340-I-22484-English.pdf>)

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Appendix III

Form of Oil Record Book

(Access via <http://treaties.un.org/doc/Publication/UNTS/Volume%201340/volume-1340-I-22484-English.pdf>)

ANNEX II

**REGULATIONS FOR THE CONTROL OF POLLUTION BY NOXIOUS LIQUID
SUBSTANCES IN BULK**

No change

ANNEX III

**REGULATIONS FOR THE PREVENTION OF POLLUTION BY HARMFUL
SUBSTANCES CARRIED BY SEA IN PACKAGED FORMS, OR IN FREIGHT
CONTAINERS, PORTABLE TANKS OR ROAD AND RAIL TANK WAGONS**

No change

ANNEX IV

**REGULATIONS FOR THE PREVENTION OF POLLUTION BY SEWAGE FROM
SHIPS**

No change

ANNEX V

**REGULATIONS FOR THE PREVENTION OF POLLUTION BY GARBAGE FROM
SHIPS**

No change

**FINAL ACT OF THE INTERNATIONAL CONFERENCE ON TANKER SAFETY
AND POLLUTION PREVENTION, 1978**

1. In consideration of recommendations made by the Maritime Safety Committee, the Council of the Inter-Governmental Maritime Consultative Organization decided, on 25 May 1977, to convene the International Conference on Tanker Safety and Pollution Prevention which was held in London from 6 to 17 February 1978.
2. Upon the invitation of the Inter-Governmental Maritime Consultative Organization, the following States were represented by delegations at the Conference:

Algeria	Liberia
Argentina	Malaysia
Australia	Mexico
Bahamas	Morocco
Bahrain	Netherlands
Barbados	New Zealand
Belgium	Nigeria
Brazil	Norway
Bulgaria	Oman
Canada	Panama
Chile	Philippines
Colombia	Poland
Cuba	Portugal
Cyprus	Republic of Korea
Denmark	Romania
Egypt	Saudi Arabia
Finland	Senegal
France	Singapore
German Democratic Republic	Spain
Germany, Federal Republic of	Sweden
Ghana	Thailand
Greece	Trinidad and Tobago
India	Tunisia
Indonesia	Turkey
Iran	Union of Soviet Socialist Republics
Iraq	United Kingdom of Great Britain and Northern Ireland
Ireland	
Israel	United States of America

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Italy	Uruguay
Japan	Venezuela
Kenya	Yugoslavia
Kuwait	

3. The following States were represented at the Conference by observers:

China
Ecuador
Mauritius

4. At the invitation of the Organization, the following organization in the United Nations system sent a representative to the Conference:

United Nations Environment Programme (UNEP)

5. The following inter-governmental organizations sent observers to the Conference:

Organisation for Economic Co-operation and Development (OECD)
Commission of the European Communities (EEC)

6. The following non-governmental organizations also sent observers to the Conference:

International Chamber of Shipping (ICS)
International Shipping Federation (ISF)
International Union of Marine Insurance (IUMI)
International Confederation of Free Trade Unions (ICFTU)
International Radio-Maritime Committee (CIRM)
International Association of Ports and Harbors (IAPH)
Baltic and International Maritime Conference (BIMCO)
International Association of Classification Societies (IACS)
Oil Companies International Marine Forum (OCIMF)
International Shipowners' Association (INSA)
Engineering Committee on Oceanic Resources (ECOR)
Friends of the Earth International (FOE)
International Association of Institutes of Navigation (IAIN)
Association of West European Shipbuilders (AWES)

7. At the opening of the Conference, Mr. S. Clinton Davis, Parliamentary Under-Secretary of State for Companies, Aviation and Shipping of the Department of Trade of the United

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Kingdom, made a statement on behalf of Her Majesty's Government welcoming delegates to the Conference.

8. His Excellency Mr. Manuel Tello, C.M.G. of the delegation of Mexico was elected President of the Conference. The following Vice-Presidents were also elected:

Mr. M. Jacquier (France)
Mr. P. Gavai (India)
Mr. R. Adero (Kenya)
H.E. Mr. Said Ben Ammar (Tunisia)
Mr. A. Kolesnitchenko (USSR)

9. The following officers of the Conference were appointed:

Secretary-General: Mr. C. P. Srivastava;
Executive Secretaries: Captain G. P. Kostylev, Mr. Y. Sasamura.

10. The Conference established the following Committees:

Committee I

Chairman: Mr. J. Vonau (Poland);
Vice-Chairman: Mr. S. Abboud (Egypt).

Committee II

Chairman: Mr. P. Eriksson (Sweden);
Vice-Chairman: Mr. J. H. Birtwhistle (Canada).

Committee III

Chairman: Dr. L. Spinelli (Italy);
Vice-Chairman: Captain J. F. Schwarz (Argentina).

Credentials Committee

Chairman: Captain S. Tardana (Indonesia).

Drafting Committee

Chairman: Mr. S. N. Burbridge (United Kingdom).

11. The following documentation formed the basis for the work of the Conference:

- The International Convention for the Prevention of Pollution from Ships, 1973;

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- The International Convention for the Safety of Life at Sea, 1974;⁴
 - Draft Protocols to those Conventions jointly prepared by the Maritime Safety Committee and the Marine Environment Protection Committee of the Organization;
 - Draft Resolutions relating to the improvement of safety at sea and the prevention of marine pollution from ships;
 - Proposals and comments submitted to the Conference by interested governments and organizations.
12. As a result of its deliberations which are recorded in the summary records and reports of the Conference, the following instruments were adopted by the Conference:

Protocol of 1978 relating to the International Convention for the Safety of life at Sea, 1974⁵ and

Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973

The above Protocols constitute Attachments 1 and 2 to this Final Act respectively.

13. The Conference also adopted the Resolutions shown at Attachment 3 to this Final Act.
14. The text of this Final Act, including its Attachments, is deposited with the Secretary-General of the Inter-Governmental Maritime Consultative Organization. It is established in a single original in the English, French, Russian and Spanish languages, and is accompanied by the texts of the Protocol of 1978 Relating to the International Convention for the Safety of Life at Sea, 1974, and of the Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, 1973. The texts of the Protocols appear in the authentic languages specified in the Conventions to which they relate. Official translations of the Protocols will be prepared in the languages specified in the Conventions to which they relate. Originals of these official translations will be deposited with this Final Act.
15. The Secretary-General of the Inter-Governmental Maritime Consultative Organization shall send certified copies of this Final Act with the Resolutions of the Conference, certified copies of the authentic texts of the Protocols and, when they have been prepared,

⁴ United Nations, *Treaty Series*, vol. 1185, p. 2.

⁵ *Ibid.*, vol. 1226, p. 213.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

official translations of the Protocols, to the Governments of the States invited to be represented at the Conference, in accordance with the wishes of those Governments.

IN WITNESS WHEREOF the undersigned have affixed their signatures to this Final Act.

DONE at London this seventeenth day of February one thousand nine hundred and seventy-eight.

RESOLUTION 1

**TARGET DATE FOR THE ENTRY INTO FORCE OF THE PROTOCOL OF 1978
RELATING TO THE INTERNATIONAL CONVENTION FOR THE PREVENT OF
POLLUTION FROM SHIPS, 1973**

The Conference,

Recognizing that the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973, (MARPOL Protocol) when implemented, would substantially achieve the complete elimination of intentional pollution of the marine environment by oil and other harmful substances and the minimization of accidental discharge of such substances,

Desiring to bring the MARPOL Protocol which incorporates and modifies the International Convention for the Prevention of Pollution from Ships, 1973, (MARPOL Convention) into force as soon as possible,

Taking note of the work by the Inter-Governmental Maritime Consultative Organization to resolve the technical problems involved in the implementation of the MARPOL Convention,

Recommends that all Governments concerned adopt a target date of June 1981 for the entry into force of the MARPOL Protocol which incorporates and modifies the MARPOL Convention,

Recommends also that those States which contemplate becoming Parties to the MARPOL Protocol:

- (a) Make every effort to deposit their instruments of ratification, approval, acceptance or accession at as early a date as possible but not later than June 1980;
- (b) If they have not deposited such instruments before June 1980, give the Secretary-General of the Organization by that date an indication of the period within which they expect to be able to do so,

Recommends further that, prior to the entry into force of the MARPOL Protocol, Governments should ensure that the provisions of that Protocol are applied by the date fixed to new ships in respect of requirements which contain a specific implementation date,

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Noting that, with regard to existing oil tankers, the MARPOL Protocol prescribes that requirements should be implemented in relation to the date on which the Protocol enters into force,

Invites all Governments concerned to put these requirements into effect, to the maximum extent, without waiting for the entry into force of the MARPOL Protocol, by June 1981, or as soon as possible thereafter, namely:

- For existing crude oil tankers:
Requirements for segregated ballast tanks, crude oil washing system or dedicated clean ballast tanks contained in Regulation 13 of Annex I of the MARPOL Protocol
- For existing product carriers:
Requirements for segregated ballast tanks or dedicated clean ballast tanks contained in Regulation 13 of Annex I of the MARPOL Protocol,

Recommends that the eleventh session of the Assembly of the Organization in 1979 review progress towards meeting those dates.

RESOLUTION 2

**TARGET DATE FOR THE ENTRY INTO FORCE OF THE INTERNATIONAL
CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974, AND THE PROTOCOL
OF 1978 RELATING TO THAT CONVENTION**

The Conference,

Recognizing that the International Convention for the Safety of Life at Sea, 1974, (SOLAS Convention) and the Protocol of 1978 relating to that Convention (SOLAS Protocol) when implemented, can make a significant improvement in the safety of ships and property at sea and the life of persons on board,

Noting that the SOLAS Protocol adopted by the Conference cannot enter into force before the SOLAS Convention enters into force,

Desiring to bring the SOLAS Convention and the SOLAS Protocol into force as soon as possible,

Recommends that all Governments concerned adopt a target date of June 1979 for the entry into force of the SOLAS Convention and endeavour to ensure that the SOLAS Protocol enters into force at the same time or as soon as possible thereafter,

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Recommends also that those States which contemplate becoming Parties to the SOLAS Convention:

- (a) Make every effort to deposit their instruments of ratification, approval, acceptance or accession at the earliest possible date, but not later than June 1978;
- (b) Deposit instruments of ratification, approval or acceptance of, or accession to, the SOLAS Protocol when it is open for signature or as soon as possible thereafter; and when it becomes possible to do so, endeavour to deposit instruments of ratification, approval or acceptance of, or accession to, both the SOLAS Convention and the SOLAS Protocol simultaneously;
- (c) If they have not deposited such instruments before June 1978, give the Secretary-General of the Inter-Governmental Maritime Consultative Organization by that date an indication of the period within which they expect to be able to do so,

Recommends also that States which have deposited instruments of ratification of the SOLAS Convention should deposit instruments of ratification of the SOLAS Protocol as soon as possible,

Recommends further that, prior to the entry into force of the SOLAS Protocol, Administrations should ensure that the provisions of that instrument are applied to new tankers by the date fixed in respect of requirements which contain a specific implementation date,

Noting that, with regard to existing ships, the SOLAS Protocol prescribes that the requirements should be implemented in relation to the date on which that Protocol enters into force,

Invites all Governments concerned to put these requirements into effect to the maximum extent, without waiting for the entry into force of the SOLAS Protocol, by the following dates, or as soon as possible thereafter, namely:

- Requirements for inert gas systems contained in Regulation 60 of Chapter II-2 of the SOLAS Protocol
 - Existing tankers of 70,000 tons deadweight and above: by June 1981
 - Existing tankers of 40,000 tons deadweight and above but below 70,000 tons deadweight, and existing crude oil tankers of 20,000 tons and above but below 40,000 tons deadweight fitted with high capacity tank washing machines: by June 1983

- Requirements for steering gear for existing tankers contained in Regulation 29(d) of Chapter II-1 of the SOLAS Protocol: by June 1981,

Recommends that the eleventh session of the Assembly of the Inter-Governmental Maritime Consultative Organization in 1979 review progress towards meeting these dates.

RESOLUTION 3

FUTURE DEVELOPMENTS AIMED AT ELIMINATING POLLUTION

The Conference,

Noting that Resolutions 1 and 3 of the International Conference on Marine Pollution, 1973, expressed the belief that the International Convention for the Prevention of Pollution from Ships, 1973, will, when implemented, constitute a further important step towards the complete elimination of pollution of the sea by harmful substances from ships,

Believing that the Protocol of 1978 relating to that Convention (MARPOL Protocol) will further contribute towards the objective of eliminating pollution by oil,

Noting the provisions of the MARPOL Protocol extending the requirements for segregated ballast tanks to all new crude oil tankers of 20,000 tons deadweight and above and also making the crude oil washing systems obligatory for such oil tankers,

Being aware that the combination of the requirements for segregated ballast tanks and crude oil washing systems provides Administrations with a greatly improved ability to meet the objective of completely eliminating pollution of the sea from ships,

Recommends that such combination of requirements should be an ultimate objective of the Inter-Governmental Maritime Consultative Organization in respect of pollution from crude oil tankers,

Invites the Organization to develop, not later than 1986, proposals for appropriate amendments to the MARPOL Protocol to achieve the above objective.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

RESOLUTION 4

**CONTROL PROCEDURES FOR EXISTING CRUDE OIL TANKERS OF LESS
THAN 40,000 TONS DEADWEIGHT**

The Conference,

Having adopted the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973, (MARPOL Protocol),

Noting that the MARPOL Protocol contains new requirements relating to the carriage of ballast and the washing of cargo tanks in oil tankers of 40,000 tons deadweight and above,

Recognizing that in order to implement these requirements effectively, continuing strong emphasis should be placed on the effective operation of washing procedures, which will be required regardless of whether existing oil tankers of 40,000 tons deadweight and above operate with segregated ballast tanks, crude oil washing systems or dedicated clean ballast tanks,

Recognizing also that for existing tankers of less than 40,000 tons deadweight full reliance will need to be placed on the effective operation of the systems to be used for retaining the oil on board,

Recognizing further the progress made by the Inter-Governmental Maritime Consultative Organization in developing procedures for the control of discharges referred to in Resolution 6 adopted by this Conference,

Urges Governments to pay special attention to implementing those procedures on tankers of less than 40,000 tons deadweight, both in loading and unloading ports or terminals,

Recommends that the measures taken to implement such procedures should be kept under regular review by the Organization.

RESOLUTION 5

**FURTHER DEVELOPMENT OF INTERNATIONAL STANDARDS FOR INERT
GAS SYSTEMS**

The Conference,

Recognizing that the International Convention for the Safety of Life at Sea, 1974 (SOLAS Convention) and the Protocol of 1978 relating to that Convention (SOLAS Protocol) significantly extend the application of inert gas systems to both new and existing tankers,

Bearing in mind Resolution 2 adopted by this Conference to implement the SOLAS Convention and the SOLAS Protocol as soon as possible and the effect of this extended application on the available manufacturing capacity and the essential need to ensure that every inert gas system is in compliance with the highest technical standards,

Recommends that the Inter-Governmental Maritime Consultative Organization promote studies with a view to re-examining the requirements relating to inert gas systems in Regulation 62 of Chapter II-2 of the SOLAS Convention and developing guidelines to supplement the requirements of that Regulation by taking account of the arduous operating conditions and the need to maintain these systems to a satisfactory standard.

RESOLUTION 6

**PROCEDURES FOR THE EFFECTIVE ENFORCEMENT OF CONVENTIONS
RELATING TO SAFETY OF LIFE AT SEA AND FOR THE PREVENTION OF
POLLUTION FROM SHIPS**

The Conference,

Recognizing the importance of making acceptable international instruments covering safety and the prevention of pollution, ensuring their rapid entry into force and their effective enforcement subsequently,

Noting with regard to prevention of pollution from ships that Resolution 1 adopted by the International Conference on Marine Pollution, 1973, urged Governments to accept the 1969 Amendments⁶ to the International Convention for the Prevention of Pollution of the Sea by Oil, 1954,⁷ as a matter of urgency,

⁶ United Nations, *Treaty Series*, vol. 1140, p. 340.

⁷ *Ibid.*, vol. 327, p. 3.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Noting also with satisfaction that the aforementioned Amendments came into force on 20 January 1978,

Being aware that Resolution A.391(X) adopted by the Assembly of the Inter-Governmental Maritime Consultative Organization on 14 November 1977,⁸ set out guidelines for the enforcement of the aforementioned Convention as amended,

Noting further that Resolution A.321(IX) adopted by the Assembly of the Organization on 12 November 1975⁹ setting out procedures for the control of ships in respect of the International Convention for the Safety of Life at Sea, 1960,¹⁰ and the International Convention on Load Lines, 1966,¹¹

Urges Governments to implement the above-mentioned procedures and guidelines in order to ensure that the standards of safety on ships and those concerning the prevention of pollution from ships are fully complied with,

Invites the Organization to develop further these procedures and guidelines, as appropriate, as new standards contained in conventions and protocols relating to safety and prevention of pollution come into force.

RESOLUTION 7

**DEVELOPMENT OF GUIDELINES FOR THE PERFORMANCE OF IN PORT
INSPECTIONS OF THE RESULT OF CARGO TANK CLEANING USING CRUDE
OIL WASHING**

The Conference,

Noting that Regulations 13 and 13B of Annex I of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973, (MARPOL Protocol) adopted by this Conference contain new requirements for a cargo tank cleaning procedure using crude oil washing,

⁸ Resolutions and other Decisions, *International Governmental Maritime Consultative Organization Assembly, Tenth Session, 7-17 November 1977*, p. 208.

⁹ *Ibid.*, *Ninth Session, 3-14 November 1975*, p. 26.

¹⁰ United Nations, *Treaty Series*, vol. 536, p. 27.

¹¹ *Ibid.*, vol. 640, p. 133.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Recognizing that in order to implement these requirements effectively continuing strong emphasis should be placed on the effective operation of crude oil washing procedures with a view to achieving the ultimate objective of complete elimination of pollution from ships,

Recognizing also that uniform guidelines for the extent and particulars of in port inspections of the results of cargo tank cleaning are a prerequisite for ensuring compliance of crude oil tankers using crude oil washing systems at all times with the provisions of the MARPOL Protocol,

Recommends that the Inter-Governmental Maritime Consultative Organization take urgent action to develop such guidelines which should be implemented by Governments as soon as they are adopted by the Organization.

RESOLUTION 8

IMPROVEMENT OF THE STANDARDS OF CREWS ON TANKERS

The Conference,

Having adopted the Protocols of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973, and the International Convention for the Safety of Life at Sea, 1974, which contain more stringent requirements for the design, equipment, inspection and certification of ships, particularly tankers,

Noting that an international conference will shortly be held on training and certification of seafarers with the intention of concluding a convention thereon,

Bearing in mind that the human factor is of critical importance with regard to the safe operation of ships,

Recognizing therefore that the full advantage of complex and advanced design and equipment of tankers with regard to safety of life at sea and protection of the marine environment can only be obtained if at the same time requirements are introduced on adequate training and certification of crews on tankers,

Invites the Inter-Governmental Maritime Consultative Organization to bring to the attention of the 1978 International Conference on Training and Certification of Seafarers the need for the adoption of provisions in an international convention for adequate training and certification of crews on tankers.

RESOLUTION 9

PROTECTION OF PARTICULARLY SENSITIVE SEA AREAS

The Conference,

Noting with appreciation the work being carried out by the Inter-Governmental Maritime Consultative Organization concerning the protection of the marine environment against pollution from ships and from dumping of wastes,

Noting further the action taken by the International Conference on Marine Pollution, 1973, to include in the International Convention for the Prevention of Pollution from Ships, 1973, (MARPOL Convention) special mandatory provisions to prevent pollution of the sea in certain defined special areas, including the Mediterranean Sea area, the Baltic Sea area, the Black Sea area, the Red Sea area and the "Gulfs" area, because of their particular oceanographic characteristics and ecological significance,

Noting also that, under Article VIII of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972¹² (the London Dumping Convention), Contracting Parties with common interests to protect in the marine environment in a given geographical area shall endeavour, taking into account characteristic regional features, to enter into regional agreements consistent with that Convention for the prevention of pollution, especially by dumping,

Being aware of continuing activities in special regions including the Mediterranean Sea, the Red Sea, the "Gulfs" area, the Gulf of Guinea, the Caribbean and South East Asian Waters, within the United Nations system under the co-ordination of the United Nations Environment Programme and with the participation of IMCO,

Being aware also of the need for measures aiming at the protection of particularly sensitive sea areas against pollution from ships and dumping of wastes,

Realizing that this need cannot be met without special studies undertaken as a matter of priority,

Recognizing the competence of the Organization in the field of the prevention and control of marine pollution from ships and dumping of wastes, and the competence of other international organizations in the field of the marine environment,

Invites the Organization:

¹² United Nations, *Treaty Series*, vol. 1046, p. 120.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (a) To pursue its efforts in respect of the protection of the marine environment against pollution from ships and dumping of wastes;
- (b) To initiate, as a matter of priority and in addition to the work under way, studies, in collaboration with other relevant international organizations and expert bodies, with a view to:
 - (i) Making an inventory of sea areas around the world which are in special need of protection against marine pollution from ships and dumping, on account of the areas' particular sensitivity in respect of their renewable natural resources or in respect of their importance for scientific purposes;
 - (ii) Assessing, inasmuch as possible, the extent of the need of protection, as well as the measures which might be considered appropriate, in order to achieve a reasonable degree of protection, taking into account also other legitimate uses of the seas;
- (c) To consider, on the basis of the studies carried out accordingly and the results of other work undertaken, what action will be needed in order to enhance the protection of the marine environment from pollution from ships and dumping of wastes;
- (d) To take action, when appropriate, in accordance with the established procedure, with a view to incorporating any necessary provisions, within the framework of relevant conventions, as may be identified as a result of the above studies;
- (e) To formulate a recommendation to the Consultative Meeting of Contracting Parties that appropriate steps be taken within the framework of the London Dumping Convention, to protect such particularly sensitive sea areas from pollution caused by dumping.

RESOLUTION 10

**DEVELOPMENT OF GUIDELINES FOR THE PERFORMANCE OF STATUTORY
SURVEYS AND INSPECTIONS, INCLUDING UNSCHEDULED INSPECTIONS
AND MANDATORY ANNUAL SURVEYS OF SHIPS**

The Conference,

Noting that the Protocols of 1978 relating to the International Convention for the Safety of Life at Sea, 1974, (SOLAS Protocol) and to the International Convention for the Prevention of Pollution from Ships, 1973, (MARPOL Protocol) provide for modifications to the

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

provisions relating to the intervals of surveys and inspections, and the introduction of unscheduled inspections and mandatory annual surveys conducted in lieu of unscheduled inspections of ships,

Realizing that the efficiency of such surveys and inspections depends on the national rules promulgated by Administrations to give effect to the provisions of the Conventions and Protocols,

Recognizing that uniform requirements for the extent and particulars of the surveys and inspections can make a valuable contribution to the cause of ensuring continual compliance of ships with the requirements of the Conventions and Protocols,

Recognizing also that at the present time there are a number of different periods of validity for the Certificates required by the SOLAS and MARPOL Conventions and the International Convention on Load Lines, 1966, as well as different intervals of intermediate surveys or inspections required by the said Conventions and Protocols and that it would be of advantage to standardize these periods and intervals,

Recommends that the Inter-Governmental Maritime Consultative Organization take early action to develop guidelines for Administrations as to the extent, particulars and frequency of such surveys and inspections of ships having due regard to their construction, machinery, equipment and age; these guidelines should also contain requirements for the frequency and scope of unscheduled inspections and the scope of mandatory annual surveys conducted in lieu of unscheduled inspections,

Recommends also that in due course the Organization take the necessary action to amend the appropriate instruments with a view to standardizing the periods of validity of the Certificates as well as the intervals of intermediate surveys and inspections required by the above-mentioned Conventions and Protocols.

RESOLUTION 11

MARINE SAFETY CORPS

The Conference,

Noting the importance of all Administrations exercising effectively their responsibilities for formulating regulations and causing surveys and inspections of ships to be undertaken in accordance with international conventions relating to maritime safety and the prevention of pollution from ships,

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Recognizing that certain Administrations have inadequate reserves of skilled and experienced personnel to undertake such work as fully and frequently as desirable and that the Inter-Governmental Maritime Consultative Organization may be able to help them to develop such reserves by providing appropriate skilled advice and assistance, on request and through the available technical assistance programmes,

Requests the Organization to formulate arrangements for making such advice and assistance available by the establishment and utilization of a Marine Safety Corps of experts whose services may be made available by Governments willing to provide such assistance,

Requests the Secretary-General of the Organization to make such arrangements widely known among Member States, to arrange to make these experts available to Governments in response to their requests for such assistance, through the available technical assistance programmes, and to report on these operations to the Maritime Safety Committee or the Marine Environment Protection Committee of the Organization, as appropriate.

RESOLUTION 12

IMPROVED STEERING GEAR STANDARDS

The Conference,

Having adopted the Protocol of 1978 relating to the International Convention for the Safety of Life at Sea, 1974, (SOLAS Protocol),

Noting that substantive changes to the technical provisions of the 1974 Convention concerning improved steering gear standards incorporated in that Protocol will apply only to tankers of 10,000 tons gross tonnage and upwards,

Noting also that Resolution A.325(IX) adopted by the Assembly of the Inter-Governmental Maritime Consultative Organization¹³, which deals, *inter alia*, with improved steering arrangements for new ships of various tonnages, is in the form of a recommendation only,

Recognizing the need to consider the application of the improved steering gear standards in the SOLAS Protocol and in the above-mentioned Resolution to all new ships,

Requests the Organization as a matter of urgency:

¹³ Resolutions and other Decisions, *International Governmental Maritime Consultative Organization Assembly, Ninth Session, 3-14 November 1975*, p. 36.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (a) To redraft the steering gear standards for passenger and cargo ships as contained in Resolution A.325(IX), taking into account the provisions of the SOLAS Protocol;
- (b) To study the need for making the steering gear standards, which are applicable to tankers only in the SOLAS Protocol, applicable also to ships other than tankers; and
- (c) To consider the adoption of improved steering gear standards, together with other provisions for machinery and electrical installations in Resolution A.325(IX), as amendments to Chapter II-1 of the International Convention for the Safety of Life at Sea, 1974, upon its entry into force.

RESOLUTION 13

CARRIAGE OF COLLISION AVOIDANCE AIDS

The Conference,

Recognizing that the proper use of collision avoidance aids will assist the interpretation of radar data and could reduce the risk of collision and pollution of the marine environment,

Bearing in mind that collision avoidance aids with inadequate operational performance standards or operated by insufficiently trained personnel might prejudice safety of navigation,

Considering the need to prepare requirements for the carriage of such aids on all ships of 10,000 tons gross tonnage and upwards,

Considering also that the preparation of performance standards is a prerequisite for such requirements,

Invites the Inter-Governmental Maritime Consultative Organization:

- (a) To develop performance standards for collision avoidance aids as a matter of urgency and not later than 1 July 1979;
- (b) To prepare, within the same period, requirements for the carriage of such aids on all ships of 10,000 tons gross tonnage and upwards so that Chapter V of the International Convention for the Safety of Life at Sea, 1974, can be amended at the earliest practicable time; and
- (c) To invite the attention of the 1978 International Conference on Training and Certification of Seafarers to the need for including appropriate provisions concerning

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

the use of collision avoidance aids in an international convention on training and certification of seafarers.

RESOLUTION 14

**SPECIFICATIONS FOR OIL TANKERS WITH DEDICATED CLEAN BALLAST
TANKS**

The Conference,

Having adopted the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973, (MARPOL Protocol) which contains new and more stringent requirements for the design, equipment and operation of new and existing oil tankers,

Noting Regulation 13 of Annex I of the MARPOL Protocol which requires certain oil tankers to operate with dedicated clean ballast tanks,

Noting further that under Regulation 13A(2) of Annex I of the MARPOL Protocol requirements for arrangements and operational procedures for dedicated clean ballast tanks shall contain at least all the provisions of the Specifications adopted by the Conference,

Adopts the Specifications for Oil Tankers with Dedicated Clean Ballast Tanks, the text of which is set out in the Annex to this Resolution,

Recognizes that further improvement may be required in the Specifications,

Requests the Inter-Governmental Maritime Consultative Organization to review and revise, as necessary, those Specifications.

ANNEX

**SPECIFICATIONS FOR OIL TANKERS WITH DEDICATED CLEAN BALLAST
TANKS**

1. Purpose

The purpose of these Specifications is to define:

- (a) The proper on board arrangements; and

- (b) The operational procedures for the dedicated clean ballast tanks (CET) concept. These Specifications are intended to be used by shipowners when developing and by Administrations when approving detailed arrangements and procedures for each individual tanker.

2. Application

These Specifications apply to oil tankers intended to be operated under the CBT concept in accordance with Regulation 13A of Annex I of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973, (MARPOL Protocol).

3. On board arrangements

The selection of tanks dedicated solely to the carriage of clean ballast and the pumping and piping arrangements shall be developed by the shipowner and be approved and certified by the Administration on the basis of these Specifications.

3.1. Selection of tanks

The selection of clean ballast tanks shall be made to achieve the best overall result from operational and pollution prevention points of view, having regard to the following aspects:

- (a) Tanks shall be so selected as to provide adequate capacity to enable the tanker to meet the requirements of Regulation 13(2) and (3) of Annex I of the MARPOL Protocol.
- (b) Hull stress must be within acceptable limits in the resulting ballast and loaded conditions.
- (c) Tanks shall be so selected as to require a minimum of involvement of the cargo piping and pumping system.
- (d) While wing tanks are preferable from the damage protection point of view for carriage of clean ballast, centre tanks are acceptable if they offer a significantly better overall arrangement with regard to tank volume and piping arrangements.
- (e) If a slop tank is not included in the original tank arrangement, a tank of sufficient capacity shall be designated as the slop tank to receive the pipe flushing water.

3.2. *Pumping and piping*

In the overall arrangement the following points should also be kept in mind:

- (a) All ballast tanks should, whenever possible, be served by a single pump with a minimum of piping involved, in order to reduce the risk of contamination.
- (b) The piping system required for ballast handling should be so arranged as to flush without depositing oily water in the clean ballast tanks. Flushing may be done from a sea chest through the piping to a slop tank or from the clean ballast tanks to the slop tank. If separate ballast lines are used, these lines need not be flushed.
- (c) "Dead end" pipe sections should be avoided as far as possible but where necessary means shall be provided to drain such sections by connexion to a stripping device.
- (d) Double valve separation of ballast and cargo spaces should always be maintained during the voyage and to the maximum extent possible during cargo and ballast operations.
- (e) When an oil content meter is installed as required by Regulation 13A(3) of Annex I of the MARPOL Protocol, sampling points should be arranged to enable sampling of all discharges of clean ballast water, as well as regular load on top (LOT) discharges. When possible a sampling point should be arranged to enable sampling of the pipe flushing water routed to the slop tank.

4. *Operational Procedures*

A Clean Ballast Tank Operation Manual, which includes a check list, shall be developed by the shipowner for each individual tanker and shall be approved by the Administration on the basis of these Specifications.

4.1. *In loading port*

Prior to the tanker's arrival at loading port, the clean ballast quantity may be reduced to berthing condition, using a pipe that has been cleaned during the ballast voyage. A CBT tanker is never loaded to its full cargo carrying capacity, and is normally capable of carrying a full cargo together with the normal quantity of port ballast, i.e. quantity of clean ballast for arrival purposes. This enables the tanker to operate, draught permitting, without handling any ballast water in port.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

After any discharge of clean ballast in port the affected pipe system should be drained, and all valves to clean ballast tanks should be closed. If the pipe flushing procedure requires water to be available in the ballast tanks, the proper quantity is left in these tanks before they are closed off from the piping system. Thereafter, the piping system is used for normal cargo loading operations.

4.2. Loaded voyage

During the voyage in loaded condition pump and pipe flushing is carried out. Any resulting oily mixtures are to be settled in a slop tank. Overboard discharges from the slop tank are to be controlled in accordance with the requirements of the MARPOL Protocol.

When convenient after departure, the pumping and piping system to be used for clean ballast handling is flushed to a slop tank. The quantity of flushing water available should be at least 10 times the affected pipe volume. If ballast in excess of the necessary flushing water quantity is retained on board during loading, the remaining quantity can be discharged overboard using the clean piping.

When an oil content meter is installed in accordance with the requirements of Regulation 13A(3) of Annex I of the MARPOL Protocol, all discharges shall be monitored by this equipment. Where possible, the oil content in the pipe flushing water shall also be monitored to assist in controlling the efficiency of the flushing and for the detection of any abnormalities in the operation.

4.3. In unloading port

Prior to berthing in an unloading port, a quantity of clean ballast, adequate for flushing the piping designated for handling clean ballast, shall be taken on board through that piping which has remained clean throughout the voyage. If port draught limitations permit, it is recommended that more ballast be taken on board within the deadweight limit, up to the normal quantity for departure condition, thereby eliminating the need for further handling of ballast during the unloading. If it is expected that further ballasting during the unloading is necessary, the required pump and pipe section is initially left clean. The desired ballast is taken on as soon as draught conditions permit, whereupon the unloading can continue with all pumps available.

Upon completion of the unloading or at departure, the pump and piping are flushed to the slop tank, followed by ballasting of the clean ballast tanks to normal sea conditions.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

4.4. Ballast voyage

During the ballast voyage the pumping and piping system used for handling clean ballast shall be kept clean and, after any handling of oily water, be refushed as necessary in preparation for ballast handling in the loading port. Overboard discharges from the slop tank are to be controlled in accordance with the requirements of the MARPOL Protocol.

4.5. Check list

The approved operational procedures should be supplemented by a check list. The list in the Appendix to these Specifications applies generally to all tankers operating under the CBT concept. When the check list for a specific tanker is prepared, it should be expanded to include any other step of relevance and be completed with appropriate identification of pumps, valves, etc.

5. Survey and certification

5.1 Every oil tanker intended to be operated with dedicated clean ballast tanks in accordance with Regulation 13A of Annex I of the MARPOL Protocol, shall be subject to the survey required by Regulation 4 of Annex I of that Protocol.

5.2 Such survey should be made prior to the date of entry into force of the MARPOL Protocol in order to enable issue of the International Oil Pollution Prevention Certificate before compliance with the MARPOL Protocol requirements becomes mandatory.

5.3 The survey shall include the verifications of the appropriateness of:

- The selection of ballast tanks and pumping and piping arrangements, in accordance with Section 3 above;
- The CBT Operation Manual, i.e. the detailed operational procedures including check list, in accordance with Section 4 above.

5.4 Upon approval in the respects mentioned in Sections 5.1 and 5.3 above, the International Oil Pollution Prevention Certificate shall be issued by the Administration. The Certificate shall indicate which tanks are approved solely for the carriage of dedicated clean ballast. It shall also state that the master has been supplied with information concerning approved operational procedures (CBT Operation Manual).

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

5.5 Alterations to a CBT tanker which affect its capability to be operated under the CBT concept require the approval of the Administration and shall be reflected in the International Oil Pollution Prevention Certificate and, if appropriate, in the CBT Operation Manual.

6. *Documents*

The International Oil Pollution Prevention Certificate and the CBT Operation Manual shall at all times be available on board the tanker.

Appendix CBT Operational Procedures-Check List

- I. *Prior to arrival at the loading port*
1. Transfer all remaining slop to a cargo tank.
 2. Ensure that the pumping and piping designated for clean ballast operation have been properly cleaned to accommodate simultaneous discharge of clean ballast while loading.
 3. Ensure that all valves to the slop tank and the cargo tanks are closed.
 4. Perform visual inspection of all clean ballast tanks and their contents, if any, for signs of contamination.
 5. Discharge a sufficient amount of clean ballast water to ensure that remaining ballast water and cargo to be loaded will not exceed the permissible deadweight or draught. Leave a sufficient amount of water for flushing the piping, and as a minimum, a quantity equal to 10 times the volume of the affected piping.
 6. Ensure that all valves to the clean ballast tanks are closed.
 7. If no further ballast discharge is anticipated, drain the clean ballast piping.
- II. *In the loading port*
1. Perform normal loading operations of cargo tanks.
 2. Ensure sufficient slop tank capacity is available for subsequent reception of cargo pump and pipe flushings.
 3. When applicable, discharge remaining clean ballast before entire piping system is used for loading. Leave the required minimum quantity of flushing water in ballast tanks.
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BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

4. Ensure that all valves to the clean ballast tanks are closed.
5. Ensure that all valves to the cargo tanks are closed upon completion of loading.

III. *After departure from the loading port*

1. Flush appropriate pumping and piping with sufficient water from clean ballast tanks into a slop tank.
2. Ensure that valves to the slop tank are closed before pumping the remaining clean water overboard and monitoring oil content of the water, either visually or by a content meter.
3. Ensure that all valves in the clean ballast tanks are closed.

IV. *Prior to arrival at the unloading port*

1. Ensure that all valves to the slop tank and the cargo tanks are closed.
2. Recheck that the pumping and piping designated for clean ballast operation have been properly cleaned.
3. Ballast as required through clean cargo pumps and pipes, considering port draught requirements.
4. Ensure that all valves in the clean ballast tanks are closed.

V. *In the unloading port*

1. Allocate pumping and piping intended for clean ballast operation.
2. Perform normal unloading operations.
3. As soon as draught conditions permit, complete ballasting as required to departure condition.
4. Ensure that all valves to the clean ballast tanks are closed.
5. Complete unloading.

VI. *After departure from the unloading port*

1. Flush pumping and piping serving the clean ballast tanks into the slop tank.
 2. Top up clean ballast tanks as required.
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3. Process the slop tank content in accordance with LOT procedures.

RESOLUTION 15

SPECIFICATIONS FOR THE DESIGN, OPERATION AND CONTROL OF CRUDE OIL WASHING SYSTEMS

The Conference,

Having adopted the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973, (MARPOL Protocol) which contains new and more stringent requirements for the design, equipment and operation of new and existing oil tankers,

Noting Regulation 13 of Annex I of the MARPOL Protocol which requires certain oil tankers to operate with a cargo tank cleaning procedure using crude oil washing,

Noting further that under Regulation 13B(2) of Annex I of the MARPOL Protocol the requirements for the crude oil washing installation and associated equipment and arrangements shall contain at least all the provisions of the Specifications adopted by the Conference,

Adopts the Specifications for the Design, Operation and Control of Crude Oil Washing Systems, the text of which is set out in the Annex to this Resolution,

Recognizes that further improvement may be required in the Specifications, taking into account the development of technology in this field and in the light of experience gained,
Requests the Inter-Governmental Maritime Consultative Organization to review and revise, as necessary, the Specifications in order that the revised Specifications reflect the latest technology and practices as may be developed by the time of entry into force of the Protocol.

ANNEX

SPECIFICATIONS FOR THE DESIGN, OPERATION AND CONTROL OF CRUDE OIL WASHING SYSTEMS

1. Purpose

The purpose of these Specifications is to provide specific design criteria, operational requirements and control and enforcement procedures for the crude oil washing of cargo tanks of crude oil carriers as specified in Section 2.

2. Application

2.1 These Specifications apply to:

- (a) Existing crude oil tankers of 40,000 tons deadweight and above in accordance with Regulation 13(8) of Annex I of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973, (MARPOL Protocol); and
- (b) New crude oil tankers of 20,000 tons deadweight and above in accordance with Regulation 13(6) of Annex I of the MARPOL Protocol, with the changes listed in Appendix I.

Compliance of these ships with these Specifications shall be shown on the International Oil Pollution Prevention Certificate as modified by the MARPOL Protocol.

2.2 If a crude oil that is not suitable for crude oil washing is intended to be carried as cargo in a ship that is provided with only a crude oil washing system, then that ship must comply with segregated ballast tank requirements in accordance with Regulation 13(7) or dedicated clean ballast tank requirements in accordance with Regulation 13(9) of Annex I of the MARPOL Protocol.

3. General Provisions

3.1 Definition

For the purpose of these Specifications,

3.1.1 "Arrival ballast" means clean ballast as defined in Regulation 1(16) of Annex I of the MARPOL Protocol.

3.1.2 "Departure ballast" means ballast other than arrival ballast.

3.2 Initial survey

The initial survey referred to in Regulation 4 of Annex I of the MARPOL Protocol shall include a complete inspection of the crude oil washing equipment and arrangements and shall include, except for the cases specified in paragraph 4.2.11, an examination of the tanks after they have been crude oil washed and the additional controls as specified in paragraph 4.2.10 to ensure the washing system efficiency is in accordance with these Specifications.

4. Design Criteria

4.1 Piping

- 4.1.1 The crude oil washing pipes and all valves incorporated in the supply piping system shall be of steel or other equivalent material and shall be of adequate strength having regard to the pressure to which they may be subjected; and shall be properly jointed and supported.
- 4.1.2 The crude oil washing system shall consist of permanent pipework and shall be independent of the fire mains or any system other than for tank washing except that sections of the ship's cargo system may be incorporated into the crude oil washing system provided that they meet the requirements as applied to crude oil pipework. Notwithstanding the requirements of this paragraph, in combination carriers the arrangements should allow removal of the equipment, if necessary, when carrying non-liquid cargoes and be such that when reinstated the system is as originally fitted and tested for oil tightness.
- 4.1.3 Provision shall be made to prevent overpressure in the tank washing supply piping. Any relief device fitted to prevent overpressure shall discharge into the suction side of the supply pump. Alternative methods to the satisfaction of the Administration may be accepted provided an equivalent degree of safety and environmental protection is provided.
- 4.1.4 Where hydrant valves are fitted for water washing purposes on tank washing lines, all such valves shall be of adequate strength and provisions made for such connexions to be blanked off when washing lines may contain crude oil.
- 4.1.5 All connexions for pressure gauges or other instrumentation shall be provided with isolating valves adjacent to the lines or the fitting shall be of the sealed type.
- 4.1.6 No part of the crude oil washing system shall enter the machinery spaces. Where the tank washing system is fitted with a steam heater for use when water washing, the heater must be effectively isolated during crude oil washing by double shut-off valves or by clearly identifiable blanks.
- 4.1.7 Where a combined crude oil-water washing supply piping is provided the piping shall be so designed that it can be drained so far as is practicable of crude oil, before water washing is commenced, into spaces designated in the Operations and Equipment Manual. These spaces may be the slop tank or other cargo spaces.
- 4.1.8 The piping system shall be of such a diameter that the greatest number of tank cleaning machines required, as specified in the Operations and Equipment Manual, can be operated simultaneously at the designed pressure and throughput. The arrangement of the piping shall be such that the required number of tank

cleaning machines to each cargo compartment as specified in the Operations and Equipment Manual referred to in these Specifications can be operated simultaneously.

- 4.1.9 The piping system shall be tested to one and one-half times the working pressure after it has been installed on the ship.
- 4.1.10 The crude oil washing supply piping shall be anchored (firmly attached) to the ship's structure at appropriate locations, and means shall be provided to permit freedom of movement elsewhere to accommodate thermal expansion and flexing of the ship. The anchoring shall be such that any hydraulic shock can be absorbed without undue movement of the supply piping. The anchors should normally be situated at the ends furthest from the entry of the crude oil supply to the supply piping. If tank washing machines are used to anchor the ends of branch pipes then special arrangements are necessary to anchor these sections when the machines are removed for any reason.

4.2 Tank washing machines

- 4.2.1 The tank washing machines for crude oil washing shall be permanently mounted and shall be of a design acceptable to the Administration.
- 4.2.2 The performance characteristic of a tank washing machine is governed by nozzle diameter, working pressure and the movement pattern and timing. Each tank cleaning machine fitted shall have a characteristic such that the sections of the cargo tank covered by that machine will be effectively cleaned within the time specified in the Operations and Equipment Manual.
- 4.2.3 Tank washing machines shall be mounted in each cargo tank and the method of support shall be to the satisfaction of the Administration. Where the tank machines are positioned well below the deck level to cater for protuberances in the tank consideration may need to be given to additional support for the machine and its supply piping.
- 4.2.4 Each machine shall be capable of being isolated by means of stop valves in the supply line. If a deck mounted tank washing machine is removed for any reason provision shall be made to blank off the oil supply line to the machine for the period the machine is removed. Similarly provision shall be made to close the tank opening with a plate or equivalent means.
- 4.2.5 Where the drive units for the tank cleaning machines are not integral with the tank cleaning machine sufficient drive units shall be provided to ensure that no drive unit need be moved more than twice from its original position during cargo discharge to accomplish the washing programme as specified in the Operations and Equipment Manual.

- 4.2.6 The number and location of the tank washing machines shall be to the satisfaction of the Administration.
- 4.2.7 The location of the machines is dependent upon the characteristics detailed in paragraph 4.2.2 and upon the configuration of the internal structure of the tank.
- 4.2.8 The number and location of the machines shall be such that all horizontal and vertical areas are washed by direct impingement or effectively by deflection or splashing of the impinging jet. In assessing an acceptable degree of jet deflection and splashing, particular attention shall be paid to the washing of upward facing horizontal areas and the following parameters shall be used:
- (i) For horizontal areas of a tank bottom and the upper surfaces of a tank's stringers and other large primary structural members, the total area shielded from direct impingement by deck or bottom transverses, main girders, stringers or similar large primary structural members shall not exceed 10 per cent of the total horizontal area of tank bottom, the upper surface of stringers, and other large primary structural members.
 - (ii) For vertical areas of the sides of a tank, the total area of the tank's sides shielded from direct impingement by deck or bottom transverses, main girders, stringers or similar large primary structural members shall not exceed 15 per cent of the total area of the tank's sides.
- In some installations it may be necessary to consider the fitting of more than one type of tank washing machine in order to effect adequate coverage.
- 4.2.9 At the design stage the following minimum procedures shall be used to determine the area of the tank surface covered by direct impingement:
- (i) Using suitable structural plans, lines are set out from the tips of each machine to those parts of the tank within the range of the jets.
 - (ii) Where the configuration of the tanks is considered by the Administration to be complicated, a pinpoint of light simulating the tip of the tank washing machine in a scale model of the tank shall be used.
- 4.2.10
- (i) To confirm the cleanliness of the tank and to verify the design in respect of the number and location of the tank washing machines a visual inspection shall be made by entry to the tanks after a crude oil wash but prior to any water rinse which may be

specified in the Operations and Equipment Manual. The bottom of the tank to be inspected may, however, be flushed with water and stripped in order to remove any heel of crude oil before gas freeing for entry. This inspection shall ensure that the tank is essentially free of oil clingage and deposits. If the flushing procedure is adopted, a similar but unflushed tank must be used for the test specified in sub-paragraph (ii) below.

- (ii) To verify the effectiveness of the stripping and drainage arrangements a measurement shall be made of the amount of oil floating on top of the departure ballast. The ratio of the volume of oil on top of the total departure ballast water to the volume of tanks that contain this water shall not exceed 0.00085. This test shall be carried out after crude oil washing and stripping in a tank similar in all relevant respects to the tank examined in accordance with sub-paragraph (i), which has not been subjected to a water rinse nor to the intervening water flushing permissible in sub-paragraph (i) above.
- (iii) The arrival ballast after a typical ballast voyage before which the arrival ballast tanks have been crude oil washed and during which the tanks have been water rinsed in accordance with the programme set out in the Operations and Equipment Manual shall be totally discharged to the loading port harbour through an oil discharge monitoring and control system approved by the Administration, and the oil content of the effluent shall not exceed 15 ppm.

4.2.11 Where an Administration is satisfied that ships are similar in all relevant respects, the requirements of paragraph 4.2.10 need only be applied to one such ship. Furthermore where a ship has a series of tanks that are similar in all relevant respects then, for that series of tanks, the requirements of sub-paragraph 4.2.10(i) need only be applied to one tank of that series.

4.2.12 The design of the deck-mounted tank washing machines shall be such that means are provided external to the cargo tanks which when crude oil washing would indicate the rotation and arc of the movement of the machine.

4.2.13 Where submerged machines are required they should be non-programmable and in order to comply with the requirements of paragraph 4.2.8 it must be possible to verify their rotation either by indicators external to the tank or by checking their characteristic sound pattern. Where verification by sound pattern is the only method of checking the operation of bottom machines, then the operation of those machines shall be verified towards the end of each wash cycle. The method of verification by sound pattern shall be specified in the Operations and Equipment Manual.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

4.3 Pumps

- 4.3.1 The pumps supplying crude oil to the tank cleaning machines shall be either the cargo pumps or pumps specifically provided for the purpose.
- 4.3.2 The capacity of the pumps shall be sufficient to provide the necessary through put at the required pressure for the maximum number of tank cleaning machines required to be operated simultaneously as specified in the Operations and Equipment Manual. In addition to the above requirement the pumps shall, if an educator system is fitted for tank stripping, be capable of supplying the educator driving fluid to meet the requirements of paragraph 4.4.2.
- 4.3.3 The capacity of the pumps shall be such that the requirements of paragraph 4.3.2 can be met with any one pump inoperative. The pumping and piping arrangements shall be such that the crude oil washing system can be effectively operated with any one pump out of use.
- 4.3.4 The carriage of more than one grade of cargo shall not prevent crude oil washing of tanks.
- 4.3.5 To permit crude oil washing to be effectively carried out where the back pressure presented by the shore terminal is below the pressure required for crude oil washing, provision shall be made such that an adequate pressure to the washing machines can be maintained in accordance with paragraph 4.3.2. This requirement shall be met with any one cargo pump out of action. The minimum supply pressure required for crude oil washing shall be specified in the Operations and Equipment Manual. Should this minimum supply pressure not be obtainable crude oil washing operations shall not be carried out.

4.4 Stripping system

- 4.4.1 The design of the system for stripping crude oil from the bottom of every cargo tank shall be to the satisfaction of the Administration.
- 4.4.2 The design and capacity of the tank stripping system shall be such that the bottom of the tank being cleaned is kept free of accumulations of oil and sediment towards completion of the tank washing process.
- 4.4.3 The stripping system shall be capable of removing oil at a rate of 1.25 times the total throughput of all the tank cleaning machines to be operated simultaneously when washing the bottom of the cargo tank(s) as described in the ship's Operation and Equipment Manual.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- 4.4.4 Means such as level gauges, hand dipping, and stripping system performance gauges as referred to in paragraph 4.4.8 shall be provided for checking that the bottoms of cargo tanks are dry after the crude oil washing. Suitable arrangements for hand dipping must be provided at the aftermost portion of a cargo tank and in three other suitable locations. For the purpose of this paragraph "dry" means a small quantity of oil near the stripping suction with the tank dry everywhere else.
- 4.4.5 Means shall be provided to drain all cargo pumps and lines at the completion of cargo discharge, where necessary by connexion to a stripping device. The line and pump drainings shall be capable of being discharged both to a cargo tank and ashore. For discharge ashore a special small diameter line shall be provided for that purpose and connected outboard of the ship's manifold valves.
- 4.4.6 The means for stripping oil from the cargo tanks shall be by positive displacement pump, self-priming centrifugal pump or eductor or other methods to the satisfaction of the Administration. Where a stripping line is connected to a number of tanks means shall be provided for isolating each tank not being stripped at that particular time.
- 4.4.7 The carriage of more than one grade of cargo shall not prevent crude oil washing of tanks.
- 4.4.8 Equipment shall be provided for monitoring the efficiency of the stripping system. All such equipment shall have remote read out facilities in the cargo control room or in some other safe and convenient place easily accessible to the officer in charge of cargo and operations. Where a stripping pump is provided the monitoring equipment shall include either a flow indicator, or a stroke counter or revolution counter as appropriate, and pressure gauges at the inlet and discharge connexions of the pump or equivalent. Where eductors are provided the monitoring equipment shall include pressure gauges at the driving fluid intake and at the discharge and a pressure/vacuum gauge at the suction intake.
- 4.4.9 The internal structure of the tank shall be such that drainage of oil to the tank suctions of the stripping system is adequate to meet the requirements of paragraphs 4.4.2 and 4.4.4. Care shall be taken that both longitudinal and transverse drainage are satisfactory and shall be verified during the inspection required by paragraphs 3.2 and 4.2.10.
- 4.4.10 The trim conditions for crude oil washing given in the Operations and Equipment Manual shall be adhered to. In general, trim by the stern is only important during the final stages of tank discharge and shall be the maximum possible compatible with operational constraints but in no case less than that recorded during the crude oil washing prior to the inspection required by paragraphs 3.2 and 4.2.10.
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BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

4.4.11 The stripping lines and associated fittings shall be in accordance with the requirements of paragraph 4.1.1.

4.5 *Ballast lines*

4.5.1 Where a separate ballast water system for ballasting cargo tanks is not provided the arrangement shall be such that the cargo pump, manifolds and pipes used for ballasting can be safely and effectively drained of oil before ballasting.

5. Qualification of Personnel

5.1 The training requirements of ships' personnel engaged in the crude oil washing of tankers shall be to the satisfaction of the Administration.

5.2 Where a person such as the Master, the Chief Officer or the Cargo Control Officer assumes overall charge of a crude oil wash he shall:

(i) Have at least one year's experience on oil tankers where his duties have included the discharge of cargo and associated crude [oil] washing. Where his duties have not included crude oil washing operations, he shall have completed a training programme in crude oil washing in accordance with Appendix II to these Specifications and satisfactory to the Administration;

(ii) Have participated at least twice in crude oil wash programmes one of which shall be in the particular ship for which he is required to undertake the responsibility of cargo discharge. Alternatively this latter participation may be acceptable if undertaken on a ship that is similar in all relevant respects; and

(iii) Be fully knowledgeable of the contents of the Operations and Equipment Manual.

5.3 Where other nominated persons are intended to have particular responsibilities as defined in the Operations and Equipment Manual they shall have at least 6 months' experience on oil tankers where in the course of their duties they should have been involved in the cargo discharge operation. In addition they should have been instructed in the crude oil washing operation in the particular ship for which they are required to undertake this responsibility and be fully knowledgeable of the contents of the Operations and Equipment Manual. Appendix II to these Specifications should be used as guidance in establishing the content of such instruction.

6. Operation

6.1 *Tankage to be crude oil washed*

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Before departure on a ballast voyage, after the complete discharge of cargo, sufficient tanks shall have been crude oil washed, in accordance with the procedures specified in the Operations and Equipment Manual to ensure that:

- (i) As a minimum, sufficient tanks have been washed to permit compliance with the draught and trim requirements of Regulation 13(2)(a), (b) and (c) of Annex I of the MARPOL Protocol during all phases of the ballast voyage; and
- (ii) Account is taken of the ship's trading pattern and the expected weather conditions so that additional ballast water is not put into tanks which have not been crude oil washed.

In addition to the tanks referred to in sub-paragraph (i) above, approximately one-quarter of all remaining tanks shall be crude oil washed for sludge control, but these additional tanks may include the tanks referred to in sub-paragraph (ii) above. However for sludge control purposes, no tank need be crude oil washed more than once in every four months. Crude oil washing shall not be conducted between the final discharge and loading ports; that is to say no crude oil washing shall be undertaken during the ballast voyage. Ballast water shall not be put into tanks that have not been crude oil washed. Water that is put into a tank which has been crude oil washed but not water rinsed shall be regarded as dirty ballast.

6.2 Drainage and discharge ashore of cargo lines

At the end of cargo discharge all cargo main and stripping lines shall be drained and stripped and the drainings and strippings passed to the shore via the special small diameter line required by paragraph 4.4.5.

6.3 Filling of departure ballast tanks

Care shall be taken at the completion of crude oil washing of any departure ballast tank to strip the tank as completely as possible. Where departure ballast is filled through cargo lines and pumps, these must be drained and stripped of oil using the means required by paragraph 4.4.5 before ballast is loaded.

6.4 Crude oil washing at sea

All crude oil washing must be completed before the ship leaves its final port of discharge. Where any tank is crude oil washed whilst the ship is at sea between multiple discharge ports, the tank shall be left empty and available for inspection at the next discharge port before commencing the next ballast voyage. This inspection may consist of multiple sounding/dipping of the bottom of the tank when the tank is empty. Departure ballast tanks shall be ballasted prior to departure from port so that examination of the surface of the ballast

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

water can be made. In the latter case the guidance given in subparagraph 4.2.10(ii) is relevant to the inspection.

6.5 Discharge of oily water effluents on ballast voyage

The discharge of departure ballast and any other water effluent discharged during the ballast voyage shall comply with the requirements of Regulation 9 of Annex I of the MARPOL Protocol.

6.6 Use and control of inert gas

On ships to which these Specifications apply, no tank shall be crude oil washed unless the inert gas system required by Regulation 13B(3) of Annex I of the MARPOL Protocol is in proper operation. Before each tank is crude oil washed, the oxygen level shall be determined at a point 1 metre from the deck and at the middle region of the ullage space and neither of these determination shall exceed 8 per cent by volume. Where tanks have complete or partial wash bulk-heads, the determinations should be taken from similar levels in each section of the tank. The oxygen level of the inert gas being delivered during the washing process shall be continuously monitored. If during crude oil washing:

- (i) The oxygen level of the inert gas being delivered exceeds 8 per cent by volume; or
- (ii) The pressure of the atmosphere at the tanks is no longer positive,

then the washing must be stopped until satisfactory conditions are restored.

6.7. Precautions against electrostatic generation

To avoid excessive electrostatic generation in the washing process due to the presence of water in the crude oil washing fluid, the contents of any tank to be used as a source of crude oil washing fluid must first be discharged by at least 1 metre before being so used. Any tank used as a slop tank on the previous ballast voyage shall be completely discharged and refilled with dry crude if that tank is to be used as a source of washing fluid.

a. Vapour emission

On ships to which these Specifications apply there shall be means to avoid vapour emission during the filling of departure ballast wherever local conditions require it. The method of preventing the emission of hydrocarbon vapour into the atmosphere shall be:

- (a) By the use of permanent ballast tanks wherever these are sufficient to provide the minimum departure draught; or
- (b) By the containment in empty cargo tanks by the simultaneous ballasting and cargo discharge.

Alternative methods to the satisfaction of the Administrations may be accepted provided an equivalent degree of environmental protection is provided.

7. Operations and Equipment Manual

The Operations and Equipment Manual must be to the satisfaction of the Administration and shall contain the following information and operational instructions:

- 7.1 The complete text of the "Specifications for the Design, Operation and Control of Crude Oil Washing Systems".
- 7.2 A line drawing of the crude oil washing system showing the respective position of pumps, lines and washing machines which relate to the crude oil washing system.
- 7.3 A description of the system and a listing of procedures for checking that equipment is working properly during crude oil washing operations. This shall include a listing of the system and equipment parameters to be monitored, such as line pressure, oxygen level, machine revolutions, duration of cycles, etc. The established values for these parameters shall be included. The results of the tests carried out in accordance with paragraph 4.2.10 and the values of all parameters monitored during such tests shall also be included.
- 7.4 Details of the requirements of Section 6 of these Specifications together with advice and instructions, where appropriate, in meeting these requirements such as:
 - (i) Recommended methods and programmes of crude oil washing in order to accord with all foreseeable circumstances of cargo discharge restraints and to obtain maximum trim during the completion of washing and draining of each tank.
 - (ii) The procedure on ships to avoid vapour emission in accordance with paragraph 6.8.
 - (iii) The method of draining tanks which shall include information on optimum trim conditions as required by paragraph 4.4.10.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (iv) The method of draining cargo pumps, cargo lines, crude oil washing lines and stripping lines, and spaces into which they may be drained, together with the final discharge ashore via the small discharge line on completion of discharge.
- (v) Typical washing programmes under various conditions of loading specifying:
 - (1) The tanks to be washed in accordance with paragraph 6.1;
 - (2) The method for washing each tank, that is single or multi-stage;
 - (3) The number of tank washing machines to be used simultaneously;
 - (4) The duration of the crude oil wash and water rinse where the latter is appropriate;
 - (5) The volume of water used for water rinse, which shall be at least equal to that used in the water rinse prior to the inspection required by paragraphs 3.2 and 4.2.10; and
 - (6) The preferred order in which the tanks are to be washed.
- (vi) The procedure for draining and stripping, where appropriate, cargo lines and pumps before being used for the loading of departure ballast.
- (vii) The procedure for water washing lines before discharge of departure ballast and the loading and final discharge of arrival ballast.
- (viii) The procedure for verifying by sound patterns that bottom mounted machines are operating shall be carried out towards the end of the wash cycle for each tank. When carrying out such verification all other machines shall be shut down as necessary.
- (ix) Precise details of procedure to ensure compliance with Regulation 9 of Annex I of the MARPOL Protocol in the discharge of departure ballast, the water flushing of lines and the decanting of the slop tank(s) at sea.

7.5 The dangers of leakage from the crude oil washing system and the precautions necessary to prevent leakage and the action to be taken in the event of a leakage. Guidance shall be given on how the crude oil washing system is to be operationally tested for leakage before each discharge.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- 7.6 The method of preventing the entry of oil to the engine room through steam heaters as required by paragraph 4.1.6.
- 7.7 The personnel required at all times to conduct the dual operation of discharging cargo and crude oil washing. The numbers of such personnel shall include:
- (i) The person meeting the requirements of paragraph 5.2 who will have overall control of the crude oil washing process;
 - (ii) Those persons meeting the requirements of paragraph 5.3 who will be expected to undertake the actual operation; and
 - (iii) At least one person on deck at all times during washing to keep watch for leaks and malfunctioning of equipment, to test the oxygen content of tanks before washing, to check tank atmosphere pressure, to sound tank bottoms if required, to lift ullage floats if necessary and to change drive units when this is necessary.

The duties of such persons are not necessarily mutually exclusive.

- 7.8 An effective means of communication between the watch keeper on deck and the cargo control position so that in the event of a leak in or malfunctioning of the crude oil washing system the washing may be stopped as soon as possible.
- 7.9 The typical procedures for ballasting.
- 7.10 A pre-crude oil wash operational checklist for the use of the crew at each discharge which shall include the checking and calibration of all instruments.
- 7.11 The recommended intervals for on board inspection and maintenance of crude oil washing equipment in addition to statutory surveys. Reference should be made to technical manuals supplied by the manufacturers of the equipment.
- 7.12 A list of crude oils unsuitable for the crude oil washing process and their origin.

Appendix I

**List of Changes when Applying the Specifications to New Crude Oil Tankers of 20,000
Tons Deadweight and Above**

<i>Paragraph number</i>	<i>List of changes</i>
4.2.5	This paragraph is not applicable.
4.2.10	Sub-paragraph (iii) is not applicable.
6.1	Replace by the following: 6.1.1 Before departure on a ballast voyage: (i) Approximately one quarter of the cargo tanks shall be crude oil washed for sludge control purposes on a rotational basis and in accordance with the procedures specified in the Operations and Equipment Manual. However, for these purposes, no tank need be crude oil washed more than once in every four months; and (ii) If it is considered that additional ballast in a cargo tank or tanks may be required during the ballast voyage under the conditions and provisions specified in Regulation 13(3) Annex I of the MARPOL Protocol, the tank or tanks which may be used for this ballast shall be crude oil washed in accordance with the procedures specified in the Operations and Equipment Manual. 6.1.2 Ballast water shall not be put into cargo tanks that have not been crude oil washed. Water that is put into a tank which has been crude oil washed but not water rinsed shall be regarded as dirty ballast. 6.1.3 Crude oil washing shall not be conducted between the final discharge and loading ports; that is to say no crude oil washing shall be undertaken during the ballast voyage.
6.3	Replace by the following: 6.3 <i>Filling of additional ballasting cargo tanks</i>

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Care shall be taken at the completion of crude oil washing of any cargo tank that might contain ballast to strip the tank as completely as possible. Where this ballast is filled through cargo lines and pumps, these must be drained and stripped of oil using the means required by paragraph 4.4.5.

6.4 The last two sentences are not applicable.

6.5 Replace by the following:

6.5 Discharge of oily water effluents on ballast voyage

The discharge of additional ballast from cargo tanks and any other water effluent discharged during the ballast voyage shall comply with the requirements of Regulation 9 of Annex I of the MARPOL Protocol.

6.8 This paragraph is not applicable.

7.4 This paragraph is not applicable.

Appendix II

Training for Persons Intended to Assume Overall Charge of Crude Oil Washing

Introduction

Any required training shall be by supervised instruction, conducted in a shore-based facility or aboard a suitably equipped ship having training facilities and instructors for this purpose, dealing with the principles involved and the application of these principles to ship operation.

In drawing up an Administration-approved syllabus of training, the Specifications for the Design, Operation and Control of Crude Oil Washing Systems of tankers adopted by the Conference shall be taken into account.

Such training shall include but not necessarily be limited to:

- (a) An introduction to the principles of crude oil washing which shall include:
- The characteristics of crude oil as a washing fluid and its contrast with water washing;
 - Top washing;

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- Bottom washing;
- Trim requirements;
- Methods of bleeding off from the cargo discharge;
- Maintenance of required washing fluid pressure;
- Washing at sea between discharge ports;
- Recirculatory washing;
- Relative priorities and requirements for the departure ballast tanks, arrival ballast tanks and cargo only tanks;

(b) Equipment and design

(i) Location of washing machines;

(ii) Washing machines, deck-mounted and submerged:

- Types;
- Characteristics;
- Features of construction;
- Operating parameters;

(iii) Drive units;

(iv) Washing fluid supply and distribution systems;

(v) Stripping systems;

(vi) Means of sounding tanks;

(vii) Inert gas requirements.

(c) Generalized crude oil washing procedures

(i) Traditional pipeline ship/free flow ship/partial free flow ship;

(ii) Single/multi parcel cargoes;

(iii) Optimization of procedure to wash with minimum extra berth time;

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (iv) Ballasting for departure with various ship and pipeline configurations;
 - (v) Procedure for washing at sea between discharge ports.
- (d) Associated procedure
- (i) Means for minimizing residues on board
 - Stripping of cargo tanks;
 - Draining and stripping of cargo lines;
 - Final discharge of cargo ashore;
 - (ii) Water rinsing of arrival ballast tanks;
 - (iii) Filling and ultimate discharge of arrival ballast;
 - (iv) Discharge of departure ballast;
 - (v) Build-up and decanting of slop tank;
 - (vi) Requirements of Regulation 9 of Annex I of the MARPOL Protocol;
 - (vii) Avoidance of venting in port during ballasting operations.
- (e) Safety
- (i) Inert gas procedure;
 - (ii) Maintenance and monitoring of inert gas quality and pressure;
 - (iii) Stopping of washing/discharge under abnormal inert gas conditions;
 - (iv) Electrostatic generation and the precautions required to avoid it;
 - (v) Pipework integrity;
 - (vi) Avoidance of surge pressures;
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BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (vii) Spillage.
- (f) Check lists
 - (i) Before entering port;
 - (ii) Before commencing crude oil washing;
 - (iii) After crude oil washing;
 - (iv) After sailing.
- (g) Regulatory enforcement procedures
 - (i) Operations and Equipment Manual;
 - (ii) Oil Record Book;
 - (iii) Sounding of tanks;
 - (iv) Measurement of oil on top of departure ballast.
- (h) Maintenance of plant and equipment
 - (i) Maintenance of equipment in accordance with manufacturers' instructions;
 - (ii) Additional maintenance items.

Administrations shall ensure that the training facility issues an appropriate document to those qualified in accordance with this Appendix to serve as officers primarily responsible for crude oil washing.

RESOLUTION 16

EXISTING TANKERS ENGAGED IN SPECIFIC TRADES

The Conference,

Noting that Regulation 13C of Annex I of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973, (MARPOL Protocol) adopted by this Conference, contains provisions for existing tankers engaged in specific trades within specified areas,

Noting further that that Regulation also provides that such areas may be extended to other limits to be designated by the Inter-Governmental Maritime Consultative Organization,

Bearing in mind that such an extension cannot be appropriately considered without a prior assessment of all aspects and consequences thereof,

Resolves that the Organization should expeditiously promote studies of the concept of specific trades which should address at least the following topics:

- (a) Possible extension of specific trades within other limits as provided for in Regulation 13C(l)(b)(ii) of Annex I of the MARPOL Protocol;
- (b) The environmental implications of such an extension;
- (c) Any additional controls which may be necessary to apply such an extension; and
- (d) Any method (such as the method for acceptance of traffic separation schemes) which may be necessary or advisable to enable the Organization to extend specific trades as provided for in Regulation 13C(l)(b)(ii) of Annex I of the MARPOL Protocol.

RESOLUTION 17

**PROTECTIVE LOCATION OF BALLAST TANKS IN SEGREGATED BALLAST
TANKERS**

The Conference,

Noting that Regulation 13E of Annex I of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973, adopted by the Conference

contains empirical criteria for the protective location of segregated ballast tanks which are framed to minimize consequences of grounding and collision accidents to the ship, its cargo and the marine environment from *inter alia* oil outflow, fire, explosion, loss of life and salvage operations,

Noting however that at present the state of knowledge of accident data has not advanced sufficiently to enable the Conference to formulate a possibly more rational probabilistic approach,

Recommends that the Inter-Governmental Maritime Consultative Organization should undertake as soon as possible to study and develop more rational probabilistic formulae or criteria for the protective disposition of segregated ballast tanks, including the feasibility of relating the protective area concept of segregated ballast tanks to the inter-relationship of hypothetical and allowable oil outflow.

RESOLUTION 18

**POSSIBLE REPLACEMENT OF "DEADWEIGHT" BY ANOTHER PARAMETER
IN THE PROTOCOL OF 1978 RELATING TO THE INTERNATIONAL
CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS, 1973,
AND THE INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT
SEA, 1974, AND ITS PROTOCOL**

The Conference,

Noting that the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973, and the International Convention for the Safety of Life at Sea, 1974, and its Protocol contain provisions which use "deadweight" as a parameter to determine the application of various requirements for oil tankers,

Recognizing that "deadweight" might not be the most suitable parameter for the above-mentioned purposes,

Requests the Inter-Governmental Maritime Consultative Organization to study whether "deadweight" in these instruments should be replaced by another parameter which will ensure uniformity in the application of the requirements in these instruments.

**INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION
FROM SHIPS, 1973**

The Parties to the Convention,

Being conscious of the need to preserve the human environment in general and the marine environment in particular,

Recognizing that deliberate, negligent or accidental release of oil and other harmful substances from ships constitutes a serious source of pollution,

Recognizing also the importance of the International Convention for the Prevention of Pollution of the Sea by Oil, 1954,¹⁴ as being the first multilateral instrument to be concluded with the prime objective of protecting the environment, and appreciating the significant contribution which that Convention has made in preserving the seas and coastal environment from pollution,

Desiring to achieve the complete elimination of intentional pollution of the marine environment by oil and other harmful substances and the minimization of accidental discharge of such substances,

Considering that this object may best be achieved by establishing rules not limited to oil pollution having a universal purport,

Have agreed as follows:

Article 1

General Obligations Under The Convention

- (1) The Parties to the Convention undertake to give effect to the provisions of the present Convention and those Annexes thereto by which they are bound, in order to prevent the pollution of the marine environment by the discharge of harmful substances or effluents containing such substances in contravention of the Convention.
- (2) Unless expressly provided otherwise, a reference to the present Convention constitutes at the same time a reference to its Protocols and to the Annexes.

¹⁴ United Nations, *Treaty Series*, vol. 327, p. 3.

Article 2
Definitions

For the purposes of the present Convention, unless expressly provided otherwise:

- (1) "Regulations" means the Regulations contained in the Annexes to the present Convention.
- (2) "Harmful substance" means any substance which, if introduced into the sea, is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea, and includes any substance subject to control by the present Convention.
- (3)
 - (1) "Discharge", in relation to harmful substances or effluents containing such substances, means any release howsoever caused from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying;
 - (2) "Discharge" does not include:
 - (i) Dumping within the meaning of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, done at London on 13 November 1972;¹⁵ or
 - (ii) Release of harmful substances directly arising from the exploration, exploitation and associated off-shore processing of sea-bed mineral resources; or
 - (iii) Release of harmful substances for purposes of legitimate scientific research into pollution abatement or control.
- (4) "Ship" means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms.
- (5) "Administration" means the Government of the State under whose authority the ship is operating. With respect to a ship entitled to fly a flag of any State, the Administration is the Government of that State. With respect to fixed or floating platforms engaged in exploration and exploitation of the sea-bed and subsoil thereof adjacent to the coast over which the coastal State exercises sovereign rights for the purposes of exploration and

¹⁵ Should read 29 December 1972. For the text of the Convention, see United Nations, *Treaty Series*, vol. 1046, p. 120.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

exploitation of their natural resources, the Administration is the Government of the coastal State concerned.

- (6) "Incident" means an event involving the actual or probable discharge into the sea of a harmful substance, or effluents containing such a substance.
- (7) "Organization" means the Inter-Governmental Maritime Consultative Organization.

Article 3
Application

- (1) The present Convention shall apply to:
 - (a) Ships entitled to fly the flag of a Party to the Convention; and
 - (b) Ships not entitled to fly the flag of a Party but which operate under the authority of a Party.
- (2) Nothing in the present Article shall be construed as derogating from or extending the sovereign rights of the Parties under international law over the sea bed and subsoil thereof adjacent to their coasts for the purposes of exploration and exploitation of their natural resources.
- (3) The present Convention shall not apply to any warship, naval auxiliary or other ship owned or operated by a State and used, for the time being, only on government non-commercial service. However, each Party shall ensure by the adoption of appropriate measures not impairing the operations or operational capabilities of such ships owned or operated by it, that such ships act in a manner consistent, so far as is reasonable and practicable, with the present Convention.

Article 4
Violation

- (1) Any violation of the requirements of the present Convention shall be prohibited and sanctions shall be established therefor under the law of the Administration of the ship concerned wherever the violation occurs. If the Administration is informed of such a violation and is satisfied that sufficient evidence is available to enable proceedings to be brought in respect of the alleged violation, it shall cause such proceedings to be taken as soon as possible, in accordance with its law.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (2) Any violation of the requirements of the present Convention within the jurisdiction of any Party to the Convention shall be prohibited and sanctions shall be established therefor under the law of that Party. Whenever such a violation occurs, that Party shall either
 - (a) Cause proceedings to be taken in accordance with its law; or
 - (b) Furnish to the Administration of the ship such information and evidence as may be in its possession that a violation has occurred.
- (3) Where information or evidence with respect to any violation of the present Convention by a ship is furnished to the Administration of that ship, the Administration shall promptly inform the Party which has furnished the information or evidence, and the Organization, of the action taken.
- (4) The penalties specified under the law of a Party pursuant to the present Article shall be adequate in severity to discourage violations of the present Convention and shall be equally severe irrespective of where the violations occur.

Article 5

Certificates and Special Rules On Inspection Of Ships

- (1) Subject to the provisions of paragraph (2) of the present Article a certificate issued under the authority of a Party to the Convention in accordance with the provisions of the Regulations shall be accepted by the other Parties and regarded for all purposes covered by the present Convention as having the same validity as a certificate issued by them.
- (2) A ship required to hold a certificate in accordance with the provisions of the Regulations is subject, while in the ports or off-shore terminals under the jurisdiction of a Party, to inspection by officers duly authorized by that Party. Any such inspection shall be limited to verifying that there is on board a valid certificate, unless there are clear grounds for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of that certificate. In that case, or if the ship does not carry a valid certificate, the Party carrying out the inspection shall take such steps as will ensure that the ship shall not sail until it can proceed to sea without presenting an unreasonable threat of harm to the marine environment. That Party may, however, grant such a ship permission to leave the port or off-shore terminal for the purpose of proceeding to the nearest appropriate repair yard available.
- (3) If a Party denies a foreign ship entry to the ports or off-shore terminals under its jurisdiction or takes any action against such a ship for the reason that the ship does not comply with the provisions of the present Convention, the Party shall immediately inform the consul or diplomatic representative of the Party whose flag the ship is entitled to fly, or if this is not possible, the Administration of the ship concerned. Before denying entry or taking such action the Party may request consultation with the Administration of the

ship concerned. Information shall also be given to the Administration when a ship does not carry a valid certificate in accordance with the provisions of the Regulations.

- (4) With respect to the ships of non-Parties to the Convention, Parties shall apply the requirements of the present Convention as may be necessary to ensure that no more favourable treatment is given to such ships.

Article 6

Detection Of Violations And Enforcement Of The Convention

- (1) Parties to the Convention shall co-operate in the detection of violations and the enforcement of the provisions of the present Convention, using all appropriate and practicable measures of detection and environmental monitoring, adequate procedures for reporting and accumulation of evidence.
- (2) A ship to which the present Convention applies may, in any port or off-shore terminal of a Party, be subject to inspection by officers appointed or authorized by that Party for the purpose of verifying whether the ship has discharged any harmful substances in violation of the provisions of the Regulations. If an inspection indicates a violation of the Convention, a report shall be forwarded to the Administration for any appropriate action.
- (3) Any Party shall furnish to the Administration evidence, if any, that the ship has discharged harmful substances or effluents containing such substances in violation of the provisions of the Regulations. If it is practicable to do so, the competent authority of the former Party shall notify the Master of the ship of the alleged violation.
- (4) Upon receiving such evidence, the Administration so informed shall investigate the matter, and may request the other Party to furnish further or better evidence of the alleged contravention. If the Administration is satisfied that sufficient evidence is available to enable proceedings to be brought in respect of the alleged violation, it shall cause such proceedings to be taken in accordance with its law as soon as possible. The Administration shall promptly inform the Party which has reported the alleged violation, as well as the Organization, of the action taken.
- (5) A Party may also inspect a ship to which the present Convention applies when it enters the ports or off-shore terminals under its jurisdiction, if a request for an investigation is received from any Party together with sufficient evidence that the ship has discharged harmful substances or effluents containing such substances in any place. The report of such investigation shall be sent to the Party requesting it and to the Administration so that the appropriate action may be taken under the present Convention.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Article 7
Undue Delay To Ships

- (1) All possible efforts shall be made to avoid a ship being unduly detained or delayed under Article 4, 5 or 6 of the present Convention.
- (2) When a ship is unduly detained or delayed under Article 4, 5 or 6 of the present Convention, it shall be entitled to compensation for any loss or damage suffered.

Article 8
Reports on Incidents Involving Harmful Substances

- (1) A report of an incident shall be made without delay to the fullest extent possible in accordance with the provisions of Protocol I to the present Convention.
- (2) Each Party to the Convention shall:
 - (a) Make all arrangements necessary for an appropriate officer or agency to receive and process all reports on incidents; and
 - (b) Notify the Organization with complete details of such arrangements for circulation to other Parties and Member States of the Organization.
- (3) Whenever a Party receives a report under the provisions of the present Article, that Party shall relay the report without delay to:
 - (a) The Administration of the ship involved; and
 - (b) Any other State which may be affected.
- (4) Each Party to the Convention undertakes to issue instructions to its maritime inspection vessels and aircraft and to other appropriate services, to report to its authorities any incident referred to in Protocol I to the present Convention. That Party shall, if it considers it appropriate, report accordingly to the Organization and to any other party concerned.

Article 9
Other Treaties and Interpretation

- (1) Upon its entry into force, the present Convention supersedes the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as amended, as between Parties to that Convention.
- (2) Nothing in the present Convention shall prejudice the codification and development of the law of the sea by the United Nations Conference on the Law of the Sea convened pursuant to Resolution 2750 C (XXV) of the General Assembly of the United Nations¹⁶ nor the present or future claims and legal views of any State concerning the law of the sea and the nature and extent of coastal and flag State jurisdiction.
- (3) The term "jurisdiction" in the present Convention shall be construed in the light of international law in force at the time of application or interpretation of the present Convention.

Article 10
Settlement of Disputes

Any dispute between two or more Parties to the Convention concerning the interpretation or application of the present Convention shall, if settlement by negotiation between the Parties involved has not been possible, and if these Parties do not otherwise agree, be submitted upon request of any of them to arbitration as set out in Protocol II to the present Convention.

Article 11
Communication of Information

- (1) The Parties to the Convention undertake to communicate to the Organization:
 - (a) The text of laws, orders, decrees and regulations and other instruments which have been promulgated on the various matters within the scope of the present Convention;
 - (b) A list of non-governmental agencies which are authorized to act on their behalf in matters relating to the design, construction and equipment of ships carrying harmful substances in accordance with the provisions of the Regulations;
 - (c) A sufficient number of specimens of their certificates issued under the provisions of the Regulations;

¹⁶ United Nations, *Official Records of the General Assembly, Twenty-fifth Session, Supplement No. 28 (A/8028)*, p. 26.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (d) A list of reception facilities including their location, capacity and available facilities and other characteristics;
 - (e) Official reports or summaries of official reports in so far as they show the results of the application of the present Convention; and
 - (f) An annual statistical report, in a form standardized by the Organization, of penalties actually imposed for infringement of the present Convention.
- (2) The Organization shall notify Parties of the receipt of any communications under the present Article and circulate to all Parties any information communicated to it under subparagraphs (l)(b) to (f) of the present Article.

Article 12
Casualties To Ships

- (1) Each Administration undertakes to conduct an investigation of any casualty occurring to any of its ships subject to the provisions of the Regulations if such casualty has produced a major deleterious effect upon the marine environment.
- (2) Each Party to the Convention undertakes to supply the Organization with information concerning the findings of such investigation, when it judges that such information may assist in determining what changes in the present Convention might be desirable.

Article 13
Signature, Ratification, Acceptance, Approval And Accession

- (1) The present Convention shall remain open for signature at the Headquarters of the Organization from 15 January 1974 until 31 December 1974 and shall thereafter remain open for accession. States may become Parties to the present Convention by:
 - (a) Signature without reservation as to ratification, acceptance or approval; or
 - (b) Signature subject to ratification, acceptance or approval, followed by ratification, acceptance or approval; or
 - (c) Accession.
 - (2) Ratification, acceptance, approval or accession shall be effected by the deposit of an instrument to that effect with the Secretary-General of the Organization.
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BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (3) The Secretary-General of the Organization shall inform all States which have signed the present Convention or acceded to it of any signature or of the deposit of any new instrument of ratification, acceptance, approval or accession and the date of its deposit.

Article 14
Optional Annexes

- (1) A State may at the time of signing, ratifying, accepting, approving or acceding to the present Convention declare that it does not accept any one or all of Annexes III, IV and V (hereinafter referred to as "Optional Annexes") of the present Convention. Subject to the above, Parties to the Convention shall be bound by any Annex in its entirety.
- (2) A State which has declared that it is not bound by an Optional Annex may at any time accept such Annex by depositing with the Organization an instrument of the kind referred to in Article 13(2).
- (3) A State which makes a declaration under paragraph (1) of the present Article in respect of an Optional Annex and which has not subsequently accepted that Annex in accordance with paragraph (2) of the present Article shall not be under any obligation nor entitled to claim any privileges under the present Convention in respect of matters related to such Annex and all references to Parties in the present Convention shall not include that State in so far as matters related to such Annex are concerned.
- (4) The Organization shall inform the States which have signed or acceded to the present Convention of any declaration under the present Article as well as the receipt of any instrument deposited in accordance with the provisions of paragraph (2) of the present Article.

Article 15
Entry Into Force¹⁷

- (1) The present Convention shall enter into force twelve months after the date on which not less than 15 States, the combined merchant fleets of which constitute not less than fifty per cent of the gross tonnage of the world's merchant shipping, have become parties to it in accordance with Article 13.

¹⁷ The International Conference on Tanker Safety and Pollution Prevention, 1978, which adopted the Protocol, envisaged that the International Convention for the Prevention of Pollution from Ships, 1973, should not be subject to independent application, in view of the modifications and additions set out in the 1978 Protocol. It is, therefore, the expectation of the Governments which adopted this policy, and of the depositary, that the 1973 Convention will be applied solely as it is incorporated in the 1978 Protocol, and subject to the aforementioned modifications and additions, but will never enter into force on its own. (Information provided by the International Maritime Organization.)

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (2) An Optional Annex shall enter into force twelve months after the date on which the conditions stipulated in paragraph (1) of the present Article have been satisfied in relation to that Annex.
- (3) The Organization shall inform the States which have signed the present Convention or acceded to it of the date on which it enters into force and of the date on which an Optional Annex enters into force in accordance with paragraph (2) of the present Article.
- (4) For States which have deposited an instrument of ratification, acceptance, approval or accession in respect of the present Convention or any Optional Annex after the requirements for entry into force thereof have been met but prior to the date of entry into force, the ratification, acceptance, approval or accession shall take effect on the date of entry into force of the Convention or such Annex or three months after the date of deposit of the instrument whichever is the later date.
- (5) For States which have deposited an instrument of ratification, acceptance, approval or accession after the date on which the Convention or an Optional Annex entered into force, the Convention or the Optional Annex shall become effective three months after the date of deposit of the instrument.
- (6) After the date on which all the conditions required under Article 16 to bring an amendment to the present Convention or an Optional Annex into force have been fulfilled, any instrument of ratification, acceptance, approval or accession deposited shall apply to the Convention or Annex as amended.

Article 16
Amendments

- (1) The present Convention may be amended by any of the procedures specified in the following paragraphs.
 - (2) Amendments after consideration by the Organization:
 - (a) Any amendment proposed by a Party to the Convention shall be submitted to the Organization and circulated by its Secretary-General to all Members of the Organization and all Parties at least six months prior to its consideration;
 - (b) Any amendment proposed and circulated as above shall be submitted to an appropriate body by the Organization for consideration;
 - (c) Parties to the Convention, whether or not Members of the Organization, shall be entitled to participate in the proceedings of the appropriate body;
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BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (d) Amendments shall be adopted by a two-thirds majority of only the Parties to the Convention present and voting;
 - (e) If adopted in accordance with sub-paragraph (d) above, amendments shall be communicated by the Secretary-General of the Organization to all the Parties to the Convention for acceptance;
 - (f) An amendment shall be deemed to have been accepted in the following circumstances:
 - (i) An amendment to an Article of the Convention shall be deemed to have been accepted on the date on which it is accepted by two-thirds of 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;
 - (ii) An amendment to an Annex to the Convention shall be deemed to have been accepted in accordance with the procedure specified in sub-paragraph (f)(iii) unless the appropriate body, at the time of its adoption, determines that the amendment shall be deemed to have been accepted on the date on which it is accepted by two-thirds of 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. Nevertheless, at any time before the entry into force of an amendment to an Annex to the Convention, a Party may notify the Secretary-General of the Organization that its express approval will be necessary before the amendment enters into force for it. The latter shall bring such notification and the date of its receipt to the notice of Parties;
 - (iii) An amendment to an Appendix to an Annex to the Convention shall be deemed to have been accepted at the end of a period to be determined by the appropriate body at the time of its adoption, which period shall be not less than ten months, unless within that period an objection is communicated to the Organization by not less than one-third of the Parties or by 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 whichever condition is fulfilled;
 - (iv) An amendment to Protocol I to the Convention shall be subject to the same procedures as for the amendments to the Annexes to the Convention, as provided for in sub-paragraphs (f)(ii) or (f)(iii) above;
 - (v) An amendment to Protocol II to the Convention shall be subject to the same procedures as for the amendments to an Article of the Convention, as provided for in sub-paragraph (f)(i) above;
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BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (g) The amendment shall enter into force under the following conditions:
- (i) In the case of an amendment to an Article of the Convention, to Protocol II, or to Protocol I or to an Annex to the Convention not under the procedure specified in sub-paragraph (f)(iii), the amendment accepted in conformity with the foregoing provisions shall enter into force six months after the date of its acceptance with respect to the Parties which have declared that they have accepted it;
 - (ii) In the case of an amendment to Protocol I, to an Appendix to an Annex or to an Annex to the Convention under the procedure specified in subparagraph (f)(iii), the amendment deemed to have been accepted in accordance with the foregoing conditions shall enter into force six months after its acceptance for all the Parties with the exception of those which, before that date, have made a declaration that they do not accept it or a declaration under sub-paragraph (f)(ii), that their express approval is necessary.
- (3) Amendment by a Conference:
- (a) Upon the request of a Party, concurred in by at least one-third of the Parties, the Organization shall convene a Conference of Parties to the Convention to consider amendments to the present Convention.
 - (b) Every amendment adopted by such a Conference by a two-thirds majority of those present and voting of the Parties shall be communicated by the Secretary-General of the Organization to all Contracting Parties for their acceptance.
 - (c) Unless the Conference decides otherwise, the amendment shall be deemed to have been accepted and to have entered into force in accordance with the procedures specified for that purpose in paragraph (2)(f) and (g) above.
- (4) (a) In the case of an amendment to an Optional Annex, a reference in the present Article to a "Party to the Convention" shall be deemed to mean a reference to a Party bound by that Annex.
- (b) Any Party which has declined to accept an amendment to an Annex shall be treated as a non-Party only for the purpose of application of that Amendment.
- (5) The adoption and entry into force of a new Annex shall be subject to the same procedures as for the adoption and entry into force of an amendment to an Article of the Convention.
- (6) Unless expressly provided otherwise, any amendment to the present Convention made under this Article, which relates to the structure of a ship, shall apply only to ships for
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BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

which the building contract is placed, or in the absence of a building contract, the keel of which is laid, on or after the date on which the amendment comes into force.

- (7) Any amendment to a Protocol or to an Annex shall relate to the substance of that Protocol or Annex and shall be consistent with the Articles of the present Convention.
- (8) The Secretary-General of the Organization shall inform all Parties of any amendments which enter into force under the present Article, together with the date on which each such amendment enters into force.
- (9) Any declaration of acceptance or of objection to an amendment under the present Article shall be notified in writing to the Secretary-General of the Organization. The latter shall bring such notification and the date of its receipt to the notice of the Parties to the Convention.

Article 17

Promotion of Technical Co-Operation

The Parties to the Convention shall promote, in consultation with the Organization and other international bodies, with assistance and co-ordination by the Executive Director of the United Nations Environment Programme, support for those Parties which request technical assistance for:

- (a) The training of scientific and technical personnel;
- (b) The supply of necessary equipment and facilities for reception and monitoring;
- (c) The facilitation of other measures and arrangements to prevent or mitigate pollution of the marine environment by ships; and
- (d) The encouragement of research;

preferably within the countries concerned, so furthering the aims and purposes of the present Convention.

Article 18

Denunciation

- (1) The present Convention or any Optional Annex may be denounced by any Parties to the Convention at any time after the expiry of five years from the date on which the Convention or such Annex enters into force for that Party.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (2) Denunciation shall be effected by notification in writing to the Secretary-General of the Organization who shall inform all the other Parties of any such notification received and of the date of its receipt as well as the date on which such denunciation takes effect.
- (3) A denunciation shall take effect twelve months after receipt of the notification of denunciation by the Secretary-General of the Organization or after the expiry of any other longer period which may be indicated in the notification.

Article 19

Deposit and Registration

- (1) The present Convention shall be deposited with the Secretary-General of the Organization who shall transmit certified true copies thereof to all States which have signed the present Convention or acceded to it.
- (2) As soon as the present Convention enters into force, the text shall be transmitted by the Secretary-General of the Organization to the Secretary-General of the United Nations for registration and publication, in accordance with Article 102 of the Charter of the United Nations.

Article 20

Languages

The present Convention is established in a single copy in the English, French, Russian and Spanish languages, each text being equally authentic. Official translations in the Arabic, German, Italian and Japanese languages shall be prepared and deposited with the signed original.

IN WITNESS WHEREOF the undersigned being duly authorized by their respective Governments for that purpose have signed the present Convention.

DONE at London this second day of November, one thousand nine hundred and seventy-three.

PROTOCOL I

**PROVISIONS CONCERNING REPORTS ON INCIDENTS INVOLVING HARMFUL
SUBSTANCES**

(in accordance with Article 8 of the Convention)

**Article I
Duty to Report**

- (1) The Master of a ship involved in an incident referred to in Article III of this Protocol, or other person having charge of the ship, shall report the particulars of such incident without delay and to the fullest extent possible in accordance with the provisions of this Protocol.
- (2) In the event of the ship referred to in paragraph (1) of the present Article being abandoned, or in the event of a report from such ship being incomplete or unobtainable, the owner, charterer, manager or operator of the ship, or their agents shall, to the fullest extent possible assume the obligations placed upon the Master under the provisions of this Protocol.

**Article II
Methods Of Reporting**

- (1) Each report shall be made by radio whenever possible, but in any case by the fastest channels available at the time the report is made. Reports made by radio shall be given the highest possible priority.
- (2) Reports shall be directed to the appropriate officer or agency specified in paragraph (2)(a) of Article 8 of the Convention.

**Article III
When to Make Reports**

The report shall be made whenever an incident involves:

- (a) A discharge other than as permitted under the present Convention; or
- (b) A discharge permitted under the present Convention by virtue of the fact that:

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (i) It is for the purpose of securing the safety of a ship or saving life at sea;
- (ii) It results from damage to the ship or its equipment; or
- (c) A discharge of a harmful substance for the purpose of combating a specific pollution incident or for purposes of legitimate scientific research into pollution abatement or control; or
- (d) The probability of a discharge referred to in sub-paragraphs (a), (b) or (c) of this Article.

Article IV
Contents of Report

- (1) Each report shall contain in general:
 - (a) The identity of the ship;
 - (b) The time and date of the occurrence of the incident;
 - (c) The geographic position of the ship when the incident occurred;
 - (d) The wind and sea conditions prevailing at the time of the incident; and
 - (e) Relevant details respecting the condition of the ship.
- (2) Each report shall contain, in particular:
 - (a) A clear indication or description of the harmful substances involved, including, if possible, the correct technical names of such substances (trade names should not be used in place of the correct technical names);
 - (b) A statement or estimate of the quantities, concentrations and likely conditions of harmful substances discharged or likely to be discharged into the sea;
 - (c) Where relevant, a description of the packaging and identifying marks; and
 - (d) If possible the name of the consignor, consignee or manufacturer.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (3) Each report shall clearly indicate whether the harmful substance discharged, or likely to be discharged is oil, a noxious liquid substance, a noxious solid substance or a noxious gaseous substance and whether such substance was or is carried in bulk or contained in packaged form, freight containers, portable tanks, or road and rail tank wagons.
- (4) Each report shall be supplemented as necessary by any other relevant information requested by a recipient of the report or which the person sending the report deems appropriate.

Article V
Supplementary Report

Any person who is obliged under the provisions of this Protocol to send a report shall, when possible:

- (a) Supplement the initial report, as necessary, with information concerning further developments; and
- (b) Comply as fully as possible with requests from affected States for additional information concerning the incident.

PROTOCOL II

ARBITRATION

(in accordance with Article 10 of the Convention)

Article I

Arbitration procedure, unless the Parties to the dispute decide otherwise, shall be in accordance with the rules set out in this Protocol.

Article II

- (1) An Arbitration Tribunal shall be established upon the request of one Party to the Convention addressed to another in application of Article 10 of the present Convention. The request for arbitration shall consist of a statement of the case together with any supporting documents.
 - (2) The requesting Party shall inform the Secretary-General of the Organization of the fact that it has applied for the establishment of a Tribunal, of the names of the Parties to the
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dispute, and of the Articles of the Convention or Regulations over which there is in its opinion disagreement concerning their interpretation or application. The Secretary-General shall transmit this information to all Parties.

Article III

The Tribunal shall consist of three members: one Arbitrator nominated by each Party to the dispute and a third Arbitrator who shall be nominated by agreement between the two first named, and shall act as its Chairman.

Article IV

- (1) If, at the end of a period of sixty days from the nomination of the second Arbitrator, the Chairman of the Tribunal shall not have been nominated, the Secretary-General of the Organization upon request of either Party shall within a further period of sixty days proceed to such nomination, selecting him from a list of qualified persons previously drawn up by the Council of the Organization.
- (2) If, within a period of sixty days from the date of the receipt of the request, one of the Parties shall not have nominated the member of the Tribunal for whose designation it is responsible, the other Party may directly inform the Secretary-General of the Organization who shall nominate the Chairman of the Tribunal within a period of sixty days, selecting him from the list prescribed in paragraph (1) of the present Article.
- (3) The Chairman of the Tribunal shall, upon nomination, request the Party which has not provided an Arbitrator, to do so in the same manner and under the same conditions. If the Party does not make the required nomination, the Chairman of the Tribunal shall request the Secretary-General of the Organization to make the nomination in the form and conditions prescribed in the preceding paragraph.
- (4) The Chairman of the Tribunal, if nominated under the provisions of the present Article, shall not be or have been a national of one of the Parties concerned, except with the consent of the other Party.
- (5) In the case of the decease or default of an Arbitrator for whose nomination one of the Parties is responsible, the said Party shall nominate a replacement within a period of sixty days from the date of decease or default. Should the said Party not make the nomination, the arbitration shall proceed under the remaining Arbitrators. In case of the decease or default of the Chairman of the Tribunal, a replacement shall be nominated in accordance with the provisions of Article III above, or in the absence of agreement between the members of the Tribunal within a period of sixty days of the decease or default, according to the provisions of the present Article.

Article V

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

Article VI

Each Party shall be responsible for the remuneration of its Arbitrator and connected costs and for the costs entailed by the preparation of its own case. The remuneration of the Chairman of the Tribunal and of all general expenses incurred by the Arbitration shall be borne equally by the Parties. The Tribunal shall keep a record of all its expenses and shall furnish a final statement thereof.

Article VII

Any Party to the Convention which has an interest of a legal nature and which may be affected by the decision in the case may, after giving written notice to the Parties which have originally initiated the procedure, join in the arbitration procedure with the consent of the Tribunal.

Article VIII

Any Arbitration Tribunal established under the provisions of the present Protocol shall decide its own rules of procedure.

Article IX

- (1) Decisions of the Tribunal both as to its procedure and its place of meeting and as to any question laid before it, shall be taken by majority votes of its members; the absence or abstention of one of the members of the Tribunal for whose nomination the Parties were responsible, shall not constitute an impediment to the Tribunal reaching a decision. In cases of equal voting, the vote of the Chairman shall be decisive.
- (2) The Parties shall facilitate the work of the Tribunal and in particular, in accordance with their legislation, and using all means at their disposal:
 - a. Provide the Tribunal with the necessary documents and information;
 - b. Enable the Tribunal to enter their territory, to hear witnesses or experts, and to visit the scene.
- (3) Absence or default of one Party shall not constitute an impediment to the procedure.

Article X

- (1) The Tribunal shall render its award within a period of five months from the time it is established unless it decides, in the case of necessity, to extend the time limit for a further period not exceeding three months. The award of the Tribunal shall be accompanied by a statement of reasons. It shall be final and without appeal and shall be communicated to the Secretary-General of the Organization. The Parties shall immediately comply with the award.
- (2) Any controversy which may arise between the Parties as regards interpretation or execution of the award may be submitted by either Party for judgment to the Tribunal which made the award, or, if it is not available to another Tribunal constituted for this purpose, in the same manner as the original Tribunal.

ANNEX I

REGULATIONS FOR THE PREVENTION OF POLLUTION BY OIL

CHAPTER I. GENERAL

Regulation I

Definitions

For the purposes of this Annex:

- (1) "Oil" means petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined products (other than petrochemicals which are subject to the provisions of Annex II of the present Convention) and, without limiting the generality of the foregoing, includes the substances listed in Appendix I to this Annex.
- (2) "Oily mixture" means a mixture with any oil content.
- (3) "Oil fuel" means any oil used as fuel in connexion with the propulsion and auxiliary machinery of the ship in which such oil is carried.
- (4) "Oil tanker" means a ship constructed or adapted primarily to carry oil in bulk in its cargo spaces and includes combination carriers and any "chemical tanker" as defined in Annex II of the present Convention when it is carrying a cargo or part cargo of oil in bulk.
- (5) "Combination carrier" means a ship designed to carry either oil or solid cargoes in bulk.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (6) "New ship" means a ship:
- (a) For which the building contract is placed after 31 December 1975; or
 - (b) In the absence of a building contract, the keel of which is laid or which is at a similar stage of construction after 30 June 1976; or
 - (c) The delivery of which is after 31 December 1979; or
 - (d) Which has undergone a major conversion:
 - (i) For which the contract is placed after 31 December 1975; or
 - (ii) In the absence of a contract, the construction work of which is begun after 30 June 1976; or
 - (iii) Which is completed after 31 December 1979.
- (7) "Existing ship" means a ship which is not a new ship.
- (8) "Major conversion" means a conversion of an existing ship:
- (a) Which substantially alters the dimensions or carrying capacity of the ship; or
 - (b) Which changes the type of the ship; or
 - (c) The intent of which in the opinion of the Administration is substantially to prolong its life; or
 - (d) Which otherwise so alters the ship that if it were a new ship, it would become subject to relevant provisions of the present Convention not applicable to it as an existing ship.
- (9) "Nearest land". The term "from the nearest land" means from the baseline from which the territorial sea of the territory in question is established in accordance with international law, except that, for the purposes of the present Convention "from the nearest land" off the north eastern coast of Australia shall mean from a line drawn from a point on the coast of Australia in
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BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Latitude 11°00' South, longitude 142°08' East to a point in latitude 10°35' South,
Longitude 141°55' East—thence to a point latitude 10°00' South,
Longitude 142°00' East, thence to a point latitude 9°10' South,
Longitude 143°52' East, thence to a point latitude 9°00' South,
Longitude 144°30' East, thence to a point latitude 13°00' South,
Longitude 144°00' East, thence to a point latitude 15°00' South,
Longitude 146°00' East, thence to a point latitude 18°00' South,
Longitude 147°00' East, thence to a point latitude 21°00' South,
Longitude 153°00' East, thence to a point on the coast of Australia in latitude 24°42'
South, longitude 153°15' East.

- (10) "Special area" means a sea area where for recognized technical reasons in relation to its oceanographical and ecological condition and to the particular character of its traffic the adoption of special mandatory methods for the prevention of sea pollution by oil is required. Special areas shall include those listed in Regulation 10 of this Annex.
- (11) "Instantaneous rate of discharge of oil content" means the rate of discharge of oil in litres per hour at any instant divided by the speed of the ship in knots at the same instant.
- (12) "Tank" means an enclosed space which is formed by the permanent structure of a ship and which is designed for the carriage of liquid in bulk.
- (13) "Wing tank" means any tank adjacent to the side shell plating.
- (14) "Centre tank" means any tank inboard of a longitudinal bulkhead.
- (15) "Slop tank" means a tank specifically designated for the collection of tank drainings, tank washings and other oily mixtures.
- (16) "Clean ballast" means the ballast in a tank which since oil was last carried therein, has been so cleaned that effluent therefrom if it were discharged from a ship which is stationary into clean calm water on a clear day would not produce visible traces of oil on the surface of the water or on adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines. If the ballast is discharged through an oil discharge monitoring and control system approved by the Administration, evidence based on such a system to the effect that the oil content of the effluent did not exceed 15 parts per million shall be determinative that the ballast was clean, notwithstanding the presence of visible traces.
- (17) "Segregated ballast" means the ballast water introduced into a tank which is completely separated from the cargo oil and oil fuel system and which is permanently allocated to the carriage of ballast or to the carriage of ballast or cargoes other than oil or noxious substances as variously defined in the Annexes of the present Convention.
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BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (18) "Length" (L) means 96 per cent of the total length on a waterline at 85 per cent of the least moulded depth measured from the top of the keel, or the length from the foreside of the stem to the axis of the rudder stock on that waterline, if that be greater. In ships designed with a rake of keel the waterline on which this length is measured shall be parallel to the designed waterline. The length (L) shall be measured in metres.
- (19) "Forward and after perpendiculars" shall be taken at the forward and after ends of the length (L). The forward perpendicular shall coincide with the foreside of the stem on the waterline on which the length is measured.
- (20) "Amidships" is at the middle of the length (L).
- (21) "Breadth" (B) means the maximum breadth of the ship, measured amidships to the moulded line of the frame in a ship with a metal shell and to the outer surface of the hull in a ship with a shell of any other material. The breadth (B) shall be measured in metres.
- (22) "Deadweight" (DW) means the difference in metric tons between the displacement of a ship in water of a specific gravity of 1.025 at the load waterline corresponding to the assigned summer freeboard and the lightweight of the ship.
- (23) "Lightweight" means the displacement of a ship in metric tons without cargo, oil fuel, lubricating oil, ballast water, fresh water and feed water in tanks, consumable stores, passengers and their effects.
- (24) "Permeability" of a space means the ratio of the volume within that space which is assumed to be occupied by water to the total volume of that space.
- (25) "Volumes" and "areas" in a ship shall be calculated in all cases to moulded lines.

Regulation 2
Application

- (1) Unless expressly provided otherwise, the provisions of this Annex shall apply to all ships.
- (2) In ships other than oil tankers fitted with cargo spaces which are constructed and utilized to carry oil in bulk of an aggregate capacity of 200 cubic metres or more, the requirements of Regulations 9, 10, 14, 15(1), (2) and (3), 18, 20 and 24(4) of this Annex for oil tankers shall also apply to the construction and operation of those spaces, except that where such aggregate capacity is less than 1,000 cubic metres the requirements of Regulation 15(4) of this Annex may apply in lieu of Regulation 15(1), (2) and (3).
- (3) Where a cargo subject to the provisions of Annex II of the present Convention is carried in a cargo space of an oil tanker, the appropriate requirements of Annex II of the present Convention shall also apply.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

(4) (a) Any hydrofoil, air-cushion vehicle and other new type of vessel (near-surface craft, submarine craft, etc.) whose constructional features are such as to render the application of any of the provisions of Chapters II and III of this Annex relating to construction and equipment unreasonable or impracticable may be exempted by the Administration from such provisions, provided that the construction and equipment of that ship provides equivalent protection against pollution by oil, having regard to the service for which it is intended.

(b) Particulars of any such exemption granted by the Administration shall be indicated in the Certificate referred to in Regulation 5 of this Annex.

(c) The Administration which allows any such exemption shall, as soon as possible, but not more than ninety days thereafter, communicate to the Organization particulars of same and the reasons therefor, which the Organization shall circulate to the Parties to the Convention for their information and appropriate action, if any.

Regulation 3
Equivalents

(1) The Administration may allow any fitting, material, appliance or apparatus to be fitted in a ship as an alternative to that required by this Annex if such fitting, material, appliance or apparatus is at least as effective as that required by this Annex. This authority of the Administration shall not extend to substitution of operational methods to effect the control of discharge of oil as equivalent to those design and construction features which are prescribed by Regulations in this Annex.

(2) The Administration which allows a fitting, material, appliance or apparatus, as an alternative to that required by this Annex shall communicate to the Organization for circulation to the Parties to the Convention particulars thereof, for their information and appropriate action, if any.

Regulation 4
Surveys

(1) Every oil tanker of 150 tons gross tonnage and above, and every other ship of 400 tons gross tonnage and above shall be subject to the surveys specified below:

(a) An initial survey before the ship is put in service or before the Certificate required under Regulation 5 of this Annex is issued for the first time, which shall include a complete survey of its structure, equipment, fittings, arrangements and material in so far as the ship is covered by this Annex. This survey shall be such as to ensure that the structure, equipment, fittings, arrangements and material fully comply with the applicable requirements of this Annex.

- (b) Periodical surveys at intervals specified by the Administration, but not exceeding five years, which shall be such as to ensure that the structure, equipment, fittings, arrangements and material fully comply with the applicable requirements of this Annex. However, where the duration of the International Oil Pollution Prevention Certificate (1973) is extended as specified in Regulation 8(3) or (4) of this Annex, the interval of the periodical survey may be extended correspondingly.
- (c) Intermediate surveys at intervals specified by the Administration but not exceeding thirty months, which shall be such as to ensure that the equipment and associated pump and piping systems, including oil discharge monitoring and control systems, oily-water separating equipment and oil filtering systems, fully comply with the applicable requirements of this Annex and are in good working order. Such intermediate surveys shall be endorsed on the International Oil Pollution Prevention Certificate (1973) issued under Regulation 5 of this Annex.
- (2) The Administration shall establish appropriate measures for ships which are not subject to the provisions of paragraph (1) of this Regulation in order to ensure that the applicable provisions of this Annex are complied with.
- (3) Surveys of the ship as regards enforcement of the provisions of this Annex shall be carried out by officers of the Administration. The Administration may, however, entrust the surveys either to surveyors nominated for the purpose or to organizations recognized by it. In every case the Administration concerned fully guarantees the completeness and efficiency of the surveys.
- (4) After any survey of the ship under this Regulation has been completed, no significant change shall be made in the structure, equipment, fittings, arrangements or material covered by the survey without the sanction of the Administration, except the direct replacement of such equipment or fittings.

Regulation 5
Issue of Certificate

- (1) An International Oil Pollution Prevention Certificate (1973) shall be issued, after survey in accordance with the provisions of Regulation 4 of this Annex, to any oil tanker of 150 tons gross tonnage and above and any other ships of 400 tons gross tonnage and above which are engaged in voyages to ports or off-shore terminals under the jurisdiction of other Parties to the Convention. In the case of existing ships this requirement shall apply twelve months after the date of entry into force of the present Convention.
- (2) Such Certificate shall be issued either by the Administration or by any persons or organization duly authorized by it. In every case the Administration assumes full responsibility for the Certificate.

Regulation 6
Issue of a Certificate by another Government

- (1) The Government of a Party to the Convention may, at the request of the Administration, cause a ship to be surveyed and, if satisfied that the provisions of this Annex are complied with, shall issue or authorize the issue of an International Oil Pollution Prevention Certificate (1973) to the ship in accordance with this Annex.
- (2) A copy of the Certificate and a copy of the survey report shall be transmitted as soon as possible to the requesting Administration.
- (3) A Certificate so issued shall contain a statement to the effect that it has been issued at the request of the Administration and it shall have the same force and receive the same recognition as the Certificate issued under Regulation 5 of this Annex.
- (4) No International Oil Pollution Prevention Certificate (1973) shall be issued to a ship which is entitled to fly the flag of a State which is not a Party.

Regulation 7
Form of Certificate

The International Oil Pollution Prevention Certificate (1973) shall be drawn up in an official language of the issuing country in the form corresponding to the model given in Appendix II to this Annex. If the language used is neither English nor French, the text shall include a translation into one of these languages.

Regulation 8
Duration of Certificate

- (1) An International Oil Pollution Prevention Certificate (1973) shall be issued for a period specified by the Administration, which shall not exceed five years from the date of issue, except as provided in paragraphs (2), (3) and (4) of this Regulation.
- (2) If a ship at the time when the Certificate expires is not a port or off-shore terminal under the jurisdiction of the Party to the Convention whose flag the ship is entitled to fly, the Certificate may be extended by the Administration, but such extension shall be granted only for the purpose of allowing the ship to complete its voyage to the State whose flag the ship is entitled to fly or in which it is to be surveyed and then only in cases where it appears proper and reasonable to do so.
- (3) No Certificate shall be thus extended for a period longer than five months and a ship to which such extension is granted shall not on its arrival in the State whose flag it is entitled

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

to fly or the port in which it is to be surveyed, be entitled by virtue of such extension to leave that port or State without having obtained a new Certificate.

- (4) A Certificate which has not been extended under the provisions of paragraph (2) of this Regulation may be extended by the Administration for a period of grace of up to one month from the date of expiry stated on it.
- (5) A Certificate shall cease to be valid if significant alterations have taken place in the construction, equipment, fittings, arrangements, or material required without the sanction of the Administration, except the direct replacement of such equipment or fittings, or if intermediate surveys as specified by the Administration under Regulation 4(l)(c) of this Annex are not carried out.
- (6) A Certificate issued to a ship shall cease to be valid upon transfer of such a ship to the flag of another State, except as provided in paragraph (7) of this Regulation.
- (7) Upon transfer of a ship to the flag of another Party, the Certificate shall remain in force for a period not exceeding five months provided that it would not have expired before the end of that period, or until the Administration issues a replacement Certificate, whichever is earlier. As soon as possible after the transfer has taken place the Government of the Party whose flag the ship was formerly entitled to fly shall transmit to the Administration a copy of the Certificate carried by the ship before the transfer and, if available, a copy of the relevant survey report.

CHAPTER II

REQUIREMENTS FOR CONTROL OF OPERATIONAL POLLUTION

Regulation 9

Control of Discharge of Oil

- (1) Subject to the provisions of Regulations 10 and 11 of this Annex and paragraph (2) of this Regulation, any discharge into the sea of oil or oily mixtures from ships to which this Annex applies shall be prohibited except when all the following conditions are satisfied:
 - (a) For an oil tanker, except as provided for in sub-paragraph (h) of this paragraph:
 - (i) The tanker is not within a special area;
 - (ii) The tanker is more than 50 nautical miles from the nearest land;
 - (iii) The tanker is proceeding en route;

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (iv) The instantaneous rate of discharge of oil content does not exceed 60 litres per nautical mile;
 - (v) The total quantity of oil discharged into the sea does not exceed for existing tankers 1/15,000 of the total quantity of the particular cargo of which the residue formed a part, and for new tankers 1/30,000 of the total quantity of the particular cargo of which the residue formed a part; and
 - (vi) The tank has in operation, except as provided for in Regulation 15(3) [(5) and (6)]¹⁸ of this Annex, an oil discharge monitoring and control, system and a slop tank arrangement as required by Regulation 15 of this Annex;
- (b) From a ship of 400 tons gross tonnage and above other than an oil tanker and from machinery space bilges excluding cargo pump room bilges of an oil tanker unless mixed with oil cargo residue:
- (i) The ship is not within a special area;
 - (ii) The ship is more than 12 nautical miles from the nearest land;
 - (iii) The ship is proceeding en route;
 - (iv) The oil content of the effluent is less than 100 parts per million; and
 - (v) The ship has in operation an oil discharge monitoring and control system, oily-water separating equipment, oil filtering system or other installation as required by Regulation 16 of this Annex.
- (2) In the case of a ship of less than 400 tons gross tonnage other than an oil tanker whilst outside the special area, the Administration shall ensure that it is equipped as far as practicable and reasonable with installations to ensure the storage of oil residues on board and their discharge to reception facilities or into the sea in compliance with the requirements of paragraph (1)(b) of this Regulation.
- (3) Whenever visible traces of oil are observed on or below the surface of the water in the immediate vicinity of a ship or its wake, Governments of Parties to the Convention should, to the extent they are reasonably able to do so, promptly investigate the facts

¹⁸ The words and paragraphs appearing between brackets reflect corrections to the original text of the Convention and communicated to the States concerned by the Secretary-General of the International Maritime Organization in a procès-verbal of rectification dated 13 June 1978.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

bearing on the issue of whether there has been a violation of the provisions of this Regulation or Regulation 10 of this Annex. The investigation should include, in particular, the wind and sea conditions, the track and speed of the ship, other possible sources of the visible traces in the vicinity, and any relevant oil discharge records.

- (4) The provisions of paragraph (1) of this Regulation shall not apply to the discharge of clean or segregated ballast. The provisions of sub-paragraph (1)(b) of this Regulation shall not apply to the discharge of oily mixture which without dilution has an oil content not exceeding 15 parts per million.
- (5) No discharge into the sea shall contain chemicals or other substances in quantities or concentrations which are hazardous to the marine environment or chemicals or other substances introduced for the purpose of circumventing the conditions of discharge specified in this Regulation.
- (6) The oil residues which cannot be discharged into the sea in compliance with paragraphs (1), (2) and (4) of this Regulation shall be retained on board or discharged to reception facilities.

Regulation 10

Methods for the Prevention of Oil Pollution from Ships while Operating in Special Areas

- (1) For the purposes of this Annex the special areas are the Mediterranean Sea area, the Baltic Sea area, the Black Sea area, the Red Sea area and the "Gulfs area" which are defined as follows:
 - (a) The Mediterranean Sea area means the Mediterranean Sea proper including the gulfs and seas therein with the boundary between the Mediterranean and the Black Sea constituted by the 41° N parallel and bounded to the west by the Straits of Gibraltar at the meridian of 5°36' W.
 - (b) The Baltic Sea area means the Baltic Sea proper with the Gulf of Bothnia, the Gulf of Finland and the entrance to the Baltic Sea bounded by the parallel of the Skaw in the Skagerrak at 57°44.8' N.
 - (c) The Black Sea area means the Black Sea proper with the boundary between the Mediterranean and the Black Sea constituted by the parallel 41° N.
 - (d) The Red Sea area means the Red Sea proper including the Gulfs of Suez and Aqaba bounded at the south by the rhumb line between Ras si Ane (12°8.5' N, 43°19.6' E) and Husn Murad (12°40.4' N, 43°30.2' E).
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BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (e) The Gulfs area means the sea area located north west of the rhumb line between Ras al Hadd (22°30' N, 59°48' E) and Ras Al Fasteh (25°04' N, 61°25' E).
- (2)
- (a) Subject to the provisions of Regulation 11 of this Annex, any discharge into the sea of oil or oily mixture from any oil tanker and any ship of 400 tons gross tonnage and above other than an oil tanker shall be prohibited, while in a special area.
- (b) Such ships while in a special area shall retain on board all oil drainage and sludge, dirty ballast and tank washing waters and discharge them only to reception facilities.
- (3)
- (a) Subject to the provisions of Regulation 11 of this Annex, any discharge into the sea of oil or oily mixture from a ship of less than 400 tons gross tonnage, other than an oil tanker, shall be prohibited while in a special area, except when the oil content of the effluent without dilution does not exceed 15 parts per million or alternatively when all of the following conditions are satisfied:
- (i) The ship is proceeding en route;
- (ii) The oil content of the effluent is less than 100 parts per million; and
- (iii) The discharge is made as far as practicable from the land, but in no case less than 12 nautical miles from the nearest land.
- (b) No discharge into the sea shall contain chemicals or other substances in quantities or concentrations which are hazardous to the marine environment or chemicals or other substances introduced for the purpose of circumventing the conditions of discharge specified in this Regulation.
- (c) The oil residues which cannot be discharged into the sea in compliance with subparagraph (a) of this paragraph shall be retained on board or discharged to reception facilities.
- (4) The provisions of this Regulation shall not apply to the discharge of clean or segregated ballast.
- (5) Nothing in this Regulation shall prohibit a ship on a voyage only part of which is in a special area from discharging outside the special area in accordance with Regulation 9 of this Annex.
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BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (6) Whenever visible traces of oil are observed on or below the surface of the water in the immediate vicinity of a ship or its wake, the Governments of Parties to the Convention should, to the extent they are reasonably able to do so, promptly investigate the facts bearing on the issue of whether there has been a violation of the provisions of this Regulation or Regulation 9 of this Annex. The investigation should include, in particular, the wind and sea conditions, the track and speed of the ship, other possible sources of the visible traces in the vicinity, and any relevant oil discharge records.
- (7) Reception facilities within special areas:
- (a) Mediterranean Sea, Black Sea and Baltic Sea areas:
- (i) The Government of each Party to the Convention, the coastline of which borders on any given special area undertakes to ensure that not later than 1 January 1977 all oil loading terminals and repair ports within the special area are provided with facilities adequate for the reception and treatment of all the dirty ballast and tank washing water from oil tankers. In addition all ports within the special area shall be provided with adequate reception facilities for other residues and oily mixtures from all ships. Such facilities shall have adequate capacity to meet the needs of the ships using them without causing undue delay.
- (ii) The Government of each Party having under its jurisdiction entrances to seawater courses with low depth contour which might require a reduction of draught by the discharge of ballast undertakes to ensure the provision of the facilities referred to in sub-paragraph (a)(i) of this paragraph but with the proviso that ships required to discharge slops or dirty ballast could be subject to some delay.
- (iii) During the period between the entry into force of the present Convention (if earlier than 1 January 1977) and 1 January 1977 ships while navigating in the special areas shall comply with the requirements of Regulation 9 of this Annex. However, the Governments of Parties the coastlines of which border any of the special areas under this sub-paragraph may establish a date earlier than 1 January 1977, but after the date of entry into force of the present Convention, from which the requirements of this Regulation in respect of the special areas in question shall take effect:
- (1) If all the reception facilities required have been provided by the date so established; and
- (2) Provided that the Parties concerned notify the Organization of the date so established at least six months in advance, for circulation to other Parties.
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BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

(iv) After 1 January 1977, or the date established in accordance with sub-paragraph (a)(iii) of this paragraph if earlier, each Party shall notify the Organization for transmission to the Contracting Governments concerned of all cases where the facilities are alleged to be inadequate.

(b) Red Sea area and Gulfs area:

(i) The Government of each Party the coastline of which borders on the special areas undertakes to ensure that as soon as possible all oil loading terminals and repair ports within these special areas are provided with facilities adequate for the reception and treatment of all the dirty ballast and tank washing water from tankers. In addition all ports within the special area shall be provided with adequate reception facilities for other residues and oily mixtures from all ships. Such facilities shall have adequate capacity to meet the needs of the ships using them without causing undue delay.

(ii) The Government of each Party having under its jurisdiction entrances to seawater courses with low depth contour which might require a reduction of draught by the discharge of ballast shall undertake to ensure the provision of the facilities referred to in sub-paragraph (b)(i) of this paragraph but with the proviso that ships required to discharge slops or dirty ballast could be subject to some delay.

(iii) Each Party concerned shall notify the Organization of the measures taken pursuant to provisions of sub-paragraph (b)(i) and (ii) of this paragraph. Upon receipt of sufficient notifications the Organization shall establish a date from which the requirements of this Regulation in respect of the area in question shall take effect. The Organization shall notify all Parties of the date so established no less than twelve months in advance of that date.

(iv) During the period between the entry into force of the present Convention and the date so established, ships while navigating in the special area shall comply with the requirements of Regulation 9 of this Annex.

(v) After such date oil tankers loading in ports in these special areas where such facilities are not yet available shall also fully comply with the requirements of this Regulation. However, oil tankers entering these special areas for the purpose of loading shall make every effort to enter the area with only clean ballast on board.

(vi) After the date on which the requirements for the special area in question take effect, each Party shall notify the Organization for transmission to the Parties concerned of all cases where the facilities are alleged to be inadequate.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (vii) At least the reception facilities as prescribed in Regulation 12 of this Annex shall be provided by 1 January 1977 or one year after the date of entry into force of the present Convention, whichever occurs later.

Regulation 11
Exceptions

Regulations 9 and 10 of this Annex shall not apply to:

- (a) The discharge into the sea of oil or oily mixture necessary for the purpose of securing the safety of a ship or saving life at sea; or
- (b) The discharge into the sea of oil or oily mixture resulting from damage to a ship or its equipment:
- (i) Provided that all reasonable precautions have been taken after the occurrence of the damage or discovery of the discharge for the purpose of preventing or minimizing the discharge; and
- (ii) Except if the owner or the Master acted either with intent to cause damage, or recklessly and with knowledge that damage would probably result; or
- (c) The discharge into the sea of substances containing oil, approved by the Administration, when being used for the purpose of combating specific pollution incidents in order to minimize the damage from pollution. Any such discharge shall be subject to the approval of any Government in whose jurisdiction it is contemplated the discharge will occur.

Regulation 12
Reception Facilities

- (1) Subject to the provisions of Regulation 10 of this Annex, the Government of each Party undertakes to ensure the provision at oil loading terminals, repair ports, and in other ports in which ships have oily residues to discharge, of facilities for the reception of such residues and oily mixtures as remain from oil tankers and other ships adequate to meet the needs of the ships using them without causing undue delay to ships.
- (2) Reception facilities in accordance with paragraph (1) of this Regulation shall be provided in:

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (a) All ports and terminals in which crude oil is loaded into oil tankers where such tankers have immediately prior to arrival completed a ballast voyage of not more than 72 hours or not more than 1,200 nautical miles;
 - (b) All ports and terminals in which oil other than crude oil in bulk is loaded at an average quantity of more than 1,000 metric tons per day;
 - (c) All ports having ship repair yards or tank cleaning facilities;
 - (d) All ports and terminals which handle ships provided with the sludge tank(s) required by Regulation 17 of this Annex;
 - (e) All ports in respect of oily bilge waters and other residues, which cannot be discharged in accordance with Regulation 9 of this Annex; and
 - (f) All loading ports for bulk cargoes in respect of oil residues from combination carriers which cannot be discharged in accordance with Regulation 9 of this Annex.
- (3) The capacity for the reception facilities shall be as follows:
- (a) Crude oil loading terminals shall have sufficient reception facilities to receive oil and oily mixtures which cannot be discharged in accordance with the provisions of Regulation 9(1)(a) of this Annex from all oil tankers on voyages as described in paragraph (2)(a) of this Regulation.
 - (b) Loading ports and terminals referred to in paragraph (2)(b) of this Regulation shall have sufficient reception facilities to receive oil and oily mixtures which cannot be discharged in accordance with the provisions of Regulation 9(1)(a) of this Annex from oil tankers which load oil other than crude oil in bulk.
 - (c) All ports having ship repair yards or tank cleaning facilities shall have sufficient reception facilities to receive all residues and oily mixtures which remain on board for disposal from ships prior to entering such yards or facilities.
 - (d) All facilities provided in ports and terminals under paragraph (2)(d) of this Regulation shall be sufficient to receive all residues retained according to Regulation 17 of this Annex from all ships that may reasonably be expected to call at such ports and terminals.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (e) All facilities provided in ports and terminals under this Regulation shall be sufficient to receive oily bilge waters and other residues which cannot be discharged in accordance with Regulation 9 of this Annex.
- (f) The facilities provided in loading ports for bulk cargoes shall take into account the special problems of combination carriers as appropriate.
- (4) The reception facilities prescribed in paragraphs (2) and (3) of this Regulation shall be made available no later than one year from the date of entry into force of the present Convention or by 1 January 1977, whichever occurs later.
- (5) Each Party shall notify the Organization for transmission to the Parties concerned of all cases where the facilities provided under this Regulation are alleged to be inadequate.

Regulation 13
Segregated Ballast Oil Tankers

- (1) Every new oil tanker of 70,000 tons deadweight and above shall be provided with segregated ballast tanks and shall comply with the requirements of this Regulation.
- (2) The capacity of the segregated ballast tanks shall be so determined that the ship may operate safely on ballast voyages without recourse to the use of oil tanks for water ballast except as provided for in paragraph (3) of this Regulation. In all cases, however, the capacity of segregated ballast, tanks shall be at least such that in any ballast condition at any part of the voyage, including the conditions consisting of lightweight plus segregated ballast only, the ship's draughts and trim can meet each of the following requirements:
 - (a) The moulded draught amidships (dm) in metres (without taking into account any ship's deformation) shall not be less than: $dm = 2.0 + 0.02L$;
 - (b) The draughts at the forward and after perpendiculars shall correspond to those determined by the draught amidships (dm), as specified in subparagraph (a) of this paragraph, in association with the trim by the stern of not greater than 0.015L; and
 - (c) In any case the draught at the after perpendicular shall not be less than that which is necessary to obtain full immersion of the propeller(s).
- (3) In no case shall ballast water be carried in oil tanks except in weather conditions so severe that, in the opinion of the Master, it is necessary to carry additional ballast water in oil tanks for the safety of the ship. Such additional ballast water shall be processed and discharged in compliance with Regulation 9 and in accordance with the requirements of

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Regulation 15 of this Annex, and entry shall be made in the Oil Record Book referred to in Regulation 20 of this Anne.

- (4) Any oil tanker which is not required to be provided with segregated ballast tanks in accordance with paragraph (1) of this Regulation may, however, be qualified as a segregated ballast tanker, provided that in the case of an oil tanker of 150 metres in length and above it fully complies with the requirements of paragraphs (2) and (3) of this Regulation and in the case of an oil tanker of less than 150 metres in length the segregated ballast conditions shall be to the satisfaction of the Administration.

Regulation 14

Segregation of Oil and Water Ballast

- (1) Except as provided in paragraph (2) of this Regulation, in new ships of 4,000 tons gross tonnage and above other than oil tankers, and in new oil tankers of 150 tons gross tonnage and above, no ballast water shall be carried in any oil fuel tank.
- (2) Where abnormal conditions or the need to carry large quantities of oil fuel render it necessary to carry ballast water which is not a clean ballast in any oil fuel tank, such ballast water shall be discharged to reception facilities or into the sea in compliance with Regulation 9 using the equipment specified in Regulation 16(2) of this Annex, and an entry shall be made in the Oil Record Book to this effect.
- (3) All other ships shall comply with the requirements of paragraph (1) of this Regulation as far as reasonable and practicable.

Regulation 15

Retention of Oil on Board

- (1) Subject to the provisions of paragraphs (5) and (6) of this Regulation, oil tankers of 150 tons gross tonnage and above shall be provided with arrangements in accordance with the requirements of paragraphs (2) and (3) of this Regulation, provided that in the case of existing tankers the requirements for oil discharge monitoring and control systems and slop tank arrangements shall apply three years after the date of entry into force of the present Convention.
- (2)
- (a) Adequate means shall be provided for cleaning the cargo tanks and transferring the dirty ballast residue and tank washings from the cargo tanks into a slop tank approved by the Administration. In existing oil tankers, any cargo tank may be designated as a slop tank.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (b) In this system arrangements shall be provided to transfer the oily waste into a slop tank or combination of slop tanks in such a way that any effluent discharged into the sea will be such as to comply with the provisions of Regulation 9 of this Annex.
 - (c) The arrangements of the slop tank or combination of slop tanks shall have a capacity necessary to retain the slops generated by tank washing, oil residues and dirty ballast residues but the total shall be not less than 3 per cent of the oil carrying capacity of the ship, except that, where segregated ballast tanks are provided in accordance with Regulation 13 of this Annex, or where arrangements such as eductors involving the use of water additional to the washing water are not fitted, the Administration may accept 2 per cent. New oil tankers over 70,000 tons deadweight shall be provided with at least two slop tanks.
 - (d) Slop tanks shall be so designed particularly in respect of the position of inlets, outlets, baffles or weirs where fitted, so as to avoid excessive turbulence and entrainment of oil or emulsion with the water.
- (3)
- (a) An oil discharge monitoring and control system approved by the Administration shall be fitted. In considering the design of the oil content meter to be incorporated in the system, the Administration shall have regard to the specification recommended by the Organization.¹⁹ The system shall be fitted with a recording device to provide a continuous record of the discharge in litres per nautical mile and total quantity discharged, or the oil content and rate of discharge. This record shall be identifiable as to time and date and shall be kept for at least three years. The oil discharge monitor and control system shall come into operation when there is any discharge of effluent into the sea and shall be such as will ensure that any discharge of oily mixture is automatically stopped when the instantaneous rate of discharge of oil exceeds that permitted by Regulation 9(1)(a) of this Annex. Any failure of this monitoring and control system shall stop the discharge and be noted in the Oil Record Book. A manually operated alternative method shall be provided and may be used in the event of such failure, but the defective unit shall be made operable before the oil tanker commences its next ballast voyage unless it is proceeding to a repair port. Existing oil tankers shall comply with all of the provisions specified above except that the stopping of the discharge may be performed manually and the rate of discharge may be estimated from the pump characteristic.
 - (b) Effective oil/water interface detectors approved by the Administration shall be provided for a rapid and accurate determination of the oil/water interface in slop tanks

¹⁹ Reference is made to the Recommendation on International Performance Specifications for Oily-Water Separating Equipment and Oil Content Meters adopted by the Organization by Resolution A.233(VII).

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

and shall be available for use in other tanks where the separation of oil and water is effected and from which it is intended to discharge effluent direct to the sea.

- (c) Instructions as to the operation of the system shall be in accordance with an operational manual approved by the Administration. They shall cover manual as well as automatic operations and shall be intended to ensure that at no time shall oil be discharged except in compliance with the conditions specified in Regulation 9 of this Annex.²⁰
- (4) The requirements of paragraphs (1), (2) and (3) of this Regulation shall not apply to oil tankers of less than 150 tons gross tonnage, for which the control of discharge of oil under Regulation 9 of this Annex shall be effected by the retention of oil on board with subsequent discharge of all contaminated washings to reception facilities. The total quantity of oil and water used for washing and returned to a storage tank shall be recorded in the Oil Record Book. This total quantity shall be discharged to reception facilities unless adequate arrangements are made to ensure that any effluent which is allowed to be discharged into the sea is effectively monitored to ensure that the provisions of Regulation 9 of this Annex are complied with.
- (5) The Administration may waive the requirements of paragraphs (1), (2) and (3) of this Regulation for any oil tanker which engages exclusively on voyages both of 72 hours or less in duration and within 50 miles from the nearest land, provided that the oil tanker is not required to hold and does not hold an International Oil Pollution Prevention Certificate (1973). Any such waiver shall be subject to the requirement that the oil tanker shall retain on board all oily mixtures for subsequent discharge to reception facilities and to the determination by the Administration that facilities available to receive such oily mixtures are adequate.
- (6) Where in the view of the Organization equipment required by Regulation 9(1)(a)(vi) of this Annex and specified in sub-paragraph (3)(a) of this Regulation is not obtainable for the monitoring of discharge of light refined products (white oils), the Administration may waive compliance with such requirement, provided that discharge shall be permitted only in compliance with procedures established by the Organization which shall satisfy the conditions of Regulation 9(1)(a) of this Annex except the obligation to have an oil discharge monitoring and control system in operation. The Organization shall review the availability of equipment at intervals not exceeding twelve months.
- (7) The requirements of paragraphs (1), (2) and (3) of this Regulation shall not apply to oil tankers carrying asphalt, for which the control of discharge of asphalt under Regulation 9

²⁰ Reference is made to "Clean Seas Guide for Oil Tankers", published by the International Chamber of Shipping and the Oil Companies International Marine Forum.

of this Annex shall be effected by the retention of asphalt residues on board with discharge of all contaminated washings to reception facilities.

Regulation 16

Oil Discharge Monitoring and Control System and Oily-Water Separating Equipment

- (1) Any ship of 400 tons gross tonnage and above shall be fitted with an oily-water separating equipment or filtering system complying with the provisions of paragraph (6) of this Regulation. Any such ship which carries large quantities of oil fuel shall comply with paragraph 2 of this Regulation or paragraph (1) of Regulation 14.
- (2) Any ship of 10,000 tons gross tonnage and above shall be fitted:
 - (a) In addition to the requirements of paragraph (1) of this Regulation with an oil discharge monitoring and control system complying with paragraph (5) of this Regulation; or
 - (b) As an alternative to the requirements of paragraph (1) and subparagraph (2)(a) of this Regulation, with an oily-water separating equipment complying with paragraph (6) of this Regulation and an effective filtering system, complying with paragraph (7) of this Regulation.
- (3) The Administration shall ensure that ships of less than 400 tons gross tonnage are equipped, as far as practicable, to retain on board oil or oily mixtures or discharge them in accordance with the requirements of Regulation 9(1)(b) of this Annex.
- (4) For existing ships the requirements of paragraphs (1), (2) and (3) of this Regulation shall apply three years after the date of entry into force of the present Convention.
- (5) An oil discharge monitoring and control system shall be of a design approved by the Administration. In considering the design of the oil content meter to be incorporated into the system, the Administration shall have regard to the specification recommended by the Organization.²¹ The system shall be fitted with a recording device to provide a continuous record of the oil content in parts per million. This record shall be identifiable as to time and date and shall be kept for at least three years. The monitoring and control system shall come into operation when there is any discharge of effluent into the sea and shall be such as will ensure that any discharge of oily mixture is automatically stopped when the oil content of effluent exceeds that permitted by Regulation 9(1)(b) of this Annex. Any failure of this monitoring and control system shall stop the discharge and be noted in the

²¹ Reference is made to the Recommendation on International Performance Specifications for Oily-Water Separating Equipment and Oil Content Meters adopted by the Organization by Resolution A.233(VII).

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Oil Record Book. The defective unit shall be made operable before the ship commences its next voyage unless it is proceeding to a repair port. Existing ships shall comply with all of the provisions specified above except that the stopping of the discharge may be performed manually.

- (6) Oily-water separating equipment or an oil filtering system shall be of a design approved by the Administration and shall be such as will ensure that any oily mixture discharged into the sea after passing through the separator or filtering systems shall have an oil content of [less] than 100 parts per million. In considering the design of such equipment, the Administration shall have regard to the specification recommended by the Organization.²²
- (7) The oil filtering system referred to in paragraph (2)(b) of this Regulation shall be of a design approved by the Administration and shall be such that it will accept the discharge from the separating system and produce an effluent the oil content of which does not exceed 15 parts per million. It shall be provided with alarm arrangements to indicate when this level cannot be maintained.

Regulation 17

Tanks for Oil Residues (Sludge)

- (1) Every ship of 400 tons gross tonnage and above shall be provided with a tank or tanks of adequate capacity, having regard to the type of machinery and length of voyage, to receive the oily residues (sludges) which cannot be dealt with otherwise in accordance with the requirements of this Annex, such as those resulting from the purification of fuel and lubricating oils and oil leakages in the machinery spaces.
- (2) In new ships, such tanks shall be designed and constructed so as to facilitate their cleaning and the discharge of residues to reception facilities. Existing ships shall comply with this requirement as far as is reasonable and practicable.

Regulation 18

Pumping, Piping and Discharge Arrangements of Oil Tankers

- (1) In every oil tanker, a discharge manifold for connexion to reception facilities for the discharge of dirty ballast water or oil contaminated water shall be located on the open deck on both sides of the ship.

²² Reference is made to the Recommendation on International Performance Specifications for Oily-Water Separating Equipment and Oil Content Meters adopted by the Organization by Resolution A.233(VII).

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (2) In every oil tanker, pipelines for the discharge to the sea of effluent which may be permitted under Regulation 9 of this Annex shall be led to the open deck or to the ship's side above the waterline in the deepest ballast condition. Different piping arrangements to permit operation in the manner permitted in subparagraphs (4)(a) and (b) of this Regulation may be accepted.
- (3) In new oil tankers means shall be provided for stopping the discharge of effluent into the sea from a position on upper deck or above located so that the manifold in use referred to in paragraph (1) of this Regulation and the effluent from the pipelines referred to in paragraph of this Regulation may be visually observed. Means for stopping the discharge need not be provided at the observation position if a positive communication system such as telephone or radio system is provided between the observation position and the discharge control position.
- (4) All discharges shall take place above the waterline except as follows:
- (a) Segregated ballast and clean ballast may be discharged below the waterline in ports or at offshore terminals.
- (b) Existing ships which, without modification, are not capable of discharging segregated ballast above the waterline may discharge segregated ballast below the waterline provided that an examination of the tank immediately before the discharge has established that no contamination with oil has taken place.

Regulation 19
Standard Discharge Connection

To enable pipes of reception facilities to be connected with the ship's discharge pipeline for residues from machinery bilges, both lines shall be fitted with a standard discharge connection in accordance with the following table:

<i>Standard dimensions of flanges for discharge connections</i>	
<i>Description</i>	<i>Dimension</i>
Outside diameter	215 mm
Inner diameter	According to pipe outside diameter
Bolt circle diameter	183 mm
Slots in flange	6 holes 22 mm in diameter equidistantly placed on a bolt circle of the above diameter, slotted to the flange periphery. The slot width to be 22 mm
Flange thickness	20 mm

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Bolts and nuts: quantity, diameter	6, each of 20 mm in diameter and of suitable length
The flange is designed to accept pipes up to a maximum internal diameter of 125 mm and shall be of steel or other equivalent material having a flat face. This flange, together with a gasket of oil proof material, shall be suitable for a service pressure of 6 kg/cm ² .	

Regulation 20
Oil Record Book

- (1) Every oil tanker of 150 tons gross tonnage and above and every ship of 400 tons gross tonnage and above other than an oil tanker shall be provided with an Oil Record Book, whether as part of the ship's official log book or otherwise, in the form specified in Appendix III to this Annex.
- (2) The Oil Record Book shall be completed on each occasion, on a tank-to-tank basis, whenever any of the following operations take place in the ship;
- (a) For oil tankers
- i. Loading of oil cargo;
 - ii. Internal transfer of oil cargo during voyage;
 - iii. Opening or closing before and after loading and unloading operations of valves or similar devices which inter-connect cargo tanks;
 - iv. Opening or closing of means of communication between cargo piping and seawater ballast piping;
 - v. Opening or closing of ships' side valves before, during and after loading and unloading operations;
 - vi. Unloading of oil cargo;
 - vii. Ballasting of cargo tanks;
 - viii. Cleaning of cargo tanks;
 - ix. Discharge of ballast except from segregated ballast tanks;
 - x. Discharge of water from slop tanks;
 - xi. Disposal of residues;
 - xii. Discharge overboard of bilge water which has accumulated in machinery spaces whilst in port, and the routine discharge at sea of bilge water which has accumulated in machinery spaces.
- (b) For ships other than oil tankers
- i. Ballasting or cleaning of fuel oil tanks or oil cargo spaces;
 - ii. Discharge of ballast or cleaning water from tanks referred to under (i) of this subparagraph;

- iii. Disposal of residues;
 - iv. Discharge overboard of bilge water which has accumulated in machinery spaces whilst in port, and the routine discharge at sea of bilge water which has accumulated in machinery spaces.
- (3) In the event of such discharge of oil or oily mixture as is referred to in Regulation 11 of this Annex or in the event of accidental or other exceptional discharge of oil not excepted by that Regulation, a statement shall be made in the Oil Record Book of the circumstances of, and the reasons for, the discharge.
- (4) Each operation described in paragraph (2) of this Regulation shall be fully recorded without delay in the Oil Record Book so that all the entries in the book appropriate to that operation are completed. Each section of the book shall be signed by the officer or officers in charge of the operations concerned and shall be countersigned by the Master of the ship. The entries in the Oil Record Book shall be in an official language of the State whose flag the ship is entitled to fly, and, for ships holding an International Oil Pollution Prevention Certificate (1973) in English or French. The entries in an official national language of the State whose flag the ship is entitled to fly shall prevail in case of a dispute or discrepancy.
- (5) The Oil Record Book shall be kept in such a place as to be readily available for inspection at all reasonable times and, except in the case of unmanned ships under tow, shall be kept on board the ship. It shall be preserved for a period of three years after the last entry has been made.
- (6) The competent authority of the Government of a Party to the Convention may inspect the Oil Record Book on board any ship to which this Annex applies while the ship is in its port or offshore terminals and may make a copy of any entry in that book and may require the Master of the ship to certify that the copy is a true copy of such entry. Any copy so made which has been certified by the Master of the ship as a true copy of an entry in the ship's Oil Record Book shall be made admissible in any judicial proceedings as evidence of the facts stated in the entry. The inspection of an Oil Record Book and the taking of a certified copy by the competent authority under this paragraph shall be performed as expeditiously as possible without causing the ship to be unduly delayed.

Regulation 21

Special Requirements for Drilling Rigs and other Platforms

Fixed and floating drilling rigs when engaged in the exploration, exploitation and associated offshore processing of sea-bed mineral resources and other platforms shall comply with the requirements of this Annex applicable to ships of 400 tons gross tonnage and above other than oil tankers, except that:

BRUNEI DARUSSALAM TREATY SERIES

Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973

- (a) They shall be equipped as far as practicable with the installations required in Regulations 16 and 17 of this Annex;
- (b) They shall keep a record of all operations involving oil or oily mixture discharges, in a form approved by the Administration; and
- (c) In any special area and subject to the provisions of Regulation 11 of this Annex, the discharge into the sea of oil or oily mixture shall be prohibited except when the oil content of the discharge without dilution does not exceed 15 parts per million.

CHAPTER III

REQUIREMENTS FOR MINIMIZING OIL POLLUTION FROM OIL TANKERS
DUE TO SIDE AND BOTTOM DAMAGES

Regulation 22
Damage Assumptions

(1) For the purpose of calculating hypothetical oil outflow from oil tankers, three dimensions of the extent of damage of a parallelepiped on the side and bottom of the ship are assumed as follows. In the case of bottom damages two conditions are set forth to be applied individually to the stated portions of the oil tanker.

(a) *Side damage*

(i) Longitudinal extent (λ_c): $\frac{1}{3}L^{2/3}$ or 14.5 metres, whichever is less

(ii) Transverse extent (t_c): $\frac{B}{5}$ or 11.5 metres, whichever is less

(inboard from the ship's side at right angles to the centre-line at the level corresponding to the assigned summer freeboard)

(iii) Vertical extent (v_c): from the base line upwards without limit

(b) *Bottom damage*

	For 0.3L from the forward perpendicular of the ship	Any other part of the ship
(i) Longitudinal extent (λ_s):	L/10	L/10 or 5 metres,

whichever is less

(ii) Transverse extent (t_s):	B/6 or 10 metres, whichever is less but not less than 5 metres	5 metres
(iii) Vertical extent from the base line (v_s):	B/15 or 6 metres, whichever is less	

(2) Wherever the symbols given in this Regulation appear in this Chapter, they have the meaning as defined in this Regulation.

Regulation 23 Hypothetical Outflow of Oil

(1) The hypothetical outflow of oil in the case of side damage (O_c) and bottom damage (O_s) shall be calculated by the following formulae with respect to compartments breached by damage to all conceivable locations along the length of the ship to the extent as defined in Regulation 22 of this Annex.

(a) For side damages:

$$O_c = \sum W_i + \sum K_i C_i \quad (I)$$

(b) For bottom damages:

$$O_s = \frac{1}{3} (\sum Z_i W_i + \sum Z_i C_i) \quad (II)$$

where:

W_i = volume of a wing tank in cubic metres assumed to be breached by the damage as specified in Regulation 22 of this Annex; W_i for a segregated ballast tank may be taken equal to zero,

C_i = volume of a centre tank in cubic metres assumed to be breached by the damage as specified in Regulation 22 of this Annex; C_i for a segregated ballast tank may be taken equal to zero,

$K_i = 1 - \frac{b_i}{t_c}$ when b_i is equal to or greater than t_c , K_i shall be taken equal to zero,

Z_i = when h_i is equal to or greater than v_s , Z_i shall be taken equal to zero,

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

b_i = width of wing tank in metres under consideration measured inboard from the ship's side at right angles to the centreline at the level corresponding to the assigned summer freeboard,

h_i = minimum depth of the double bottom in metres under consideration; where no double bottom is fitted h_i shall be taken equal to zero.

Whenever symbols given in this paragraph appear in this Chapter, they have the meaning as defined in this Regulation.

- (2) If a void space or segregated ballast tank of a length less than λ_c as defined in Regulation 22 of this Annex is located between wing oil tanks, O_c in formula (I) may be calculated on the basis of volume W_i being the actual volume of one such tank (where they are of equal capacity) or the smaller of the two tanks (if they differ in capacity) adjacent to such space, multiplied by S_i as defined below and taking for all other wing tanks involved in such a collision the value of the actual full volume.

$$S_i = 1 - \frac{\lambda_i}{\lambda_c}$$

where λ_i = length in metres of void space or segregated ballast tank under consideration.

- (3)
- (a) Credit shall only be given in respect of double bottom tanks which are either empty or carrying clean water when cargo is carried in the tanks above.
 - (b) Where the double bottom does not extend for the full length and width of the tank involved, the double bottom is considered non-existent and the volume of the tanks above the area of the bottom damage shall be included in formula (II) even if the tank is not considered breached because of the installation of such a partial double bottom.
 - (c) Suction wells may be neglected in the determination of the value h_i provided such wells are not excessive in area and extend below the tank for a minimum distance and in no case more than half the height of the double bottom. If the depth of such a well exceeds half the height of the double bottom, h_i shall be taken equal to the double bottom height minus the well height.

Piping serving such wells if installed within the double bottom shall be fitted with valves or other closing arrangements located at the point of connexion to the tank served to prevent oil outflow in the event of damage to the piping. Such piping shall be installed as high from the bottom shell as possible. These valves shall be kept closed at sea at any time when the tank contains oil cargo, except that they may be opened only for cargo transfer needed for the purpose of trimming of the ship.

- (4) In the case where bottom damage simultaneously involves four centre tanks, the value of O_s may be calculated according to the formula

$$O_s = \frac{1}{4} (\sum Z_i W_i + \sum Z_i C_i) \quad \text{(III)}$$

- (5) An Administration may credit as reducing oil outflow in case of bottom damage, an installed cargo transfer system having an emergency high suction in each cargo oil tank, capable of transferring from a breached tank or tanks to segregated ballast tanks or to available cargo tankage if it can be assured that such tanks will have sufficient ullage. Credit for such a system would be governed by ability to transfer in two hours of operation oil equal to one half of the largest of the breached tanks involved and by availability of equivalent receiving capacity in ballast or cargo tanks. The credit shall be confined to permitting calculation of O_s according to formula (III). The pipes for such suctions shall be installed at least at a height not less than the vertical extent of the bottom damage v_s . The Administration shall supply the Organization with the information concerning the arrangements accepted by it, for circulation to other Parties to the Convention.

Regulation 24

Limitation of Size and Arrangement of Cargo Tanks

- (1) Every new oil tanker shall comply with the provision[s] of this Regulation. Every existing oil tanker shall be required, within two years after the date of entry into force of the present Convention, to comply with the provisions of this Regulation if such a tanker falls into either of the following categories:
- (a) A tanker, the delivery, of which is after 1 January 1977; or
 - (b) A tanker to which both the following conditions apply:
 - (i) Delivery is not later than 1 January 1977; and
 - (ii) The building contract is placed after 1 January 1974, or in cases where no building contract has previously been placed, the keel is laid or the tanker is at a similar stage of construction after 30 June 1974.
- (2) Cargo tanks of oil tankers shall be of such size and arrangements that the hypothetical outflow O_c or O_s calculated in accordance with the provisions of Regulation 23 of this Annex anywhere in the length of the ship does not exceed 30,000 cubic metres or $400 \sqrt[3]{DM}$, whichever is the greater, but subject to a maximum of 40,000 cubic metres.
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BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (3) The volume of any one wing cargo oil tank of an oil tanker shall not exceed seventy-five per cent of the limits of the hypothetical oil outflow referred to in paragraph (2) of this Regulation. The volume of any one centre cargo oil tank shall not exceed 50,000 cubic metres. However, in segregated ballast oil tankers as defined in Regulation 13 of this Annex, the permitted volume of a wing cargo oil tank situated between two segregated ballast tanks, each exceeding I_c in length, may be increased to the maximum limit of hypothetical oil outflow provided that the width of the wing tanks exceeds t_c .
- (4) The length of each cargo tank shall not exceed 10 metres or one of the following values, whichever is the greater:
- (a) Where no longitudinal bulkhead is provided: 0.1L
 - (b) Where a longitudinal bulkhead is provided at the centreline only: 0.15L
 - (c) Where two or more longitudinal bulkheads are provided:
 - (i) For wing tanks: 0.2L
 - (ii) For centre tanks:
 - (1) If $\frac{b_i}{B}$ is equal to or greater than 1/5: 0.2L
 - (2) If $\frac{b_i}{B}$ is less than 1/5:
 - Where no centreline longitudinal bulkhead is provided: $(\frac{0.5b_i}{B} + 0.1)L$
 - Where a centreline longitudinal bulkhead is provided: $(\frac{0.25b_i}{B} + 0.15)L$
- (5) In order not to exceed the volume limits established by paragraphs (2), (3) and (4) of this Regulation and irrespective of the accepted type of cargo transfer system installed, when such system inter-connects two or more cargo tanks, valves or other similar closing devices shall be provided for separating the tanks from each other. These valves or devices shall be closed when the tanker is at sea.
- (6) Lines of piping which run through cargo tanks in a position less than t_c from the ship's side or less than v_c from the ship's bottom shall be fitted with valves or similar closing devices at the point at which they open into any cargo tank. These valves shall be kept closed at sea at any time when the tanks contain cargo oil, except that they may be opened only for cargo transfer needed for the purpose of trimming of the ship.
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Regulation 25
Subdivision and Stability

- (1) Every new oil tanker shall comply with the subdivision and damage stability criteria as specified in paragraph (3) of this Regulation, after the assumed side or bottom damage as specified in paragraph (2) of this Regulation, for any operating draught reflecting actual partial or full load conditions consistent with trim and strength of the ship as well as specific gravities of the cargo. Such damage shall be applied to all conceivable locations along the length of the ship as follows:
- (a) In tankers of more than 225 metres in length, anywhere in the ship's length;
 - (b) In tankers of more than 150 metres, but not exceeding 225 metres in length, anywhere in the ship's length except involving either after or forward bulkhead bounding the machinery space located aft. The machinery space shall be treated as a single floodable compartment;
 - (c) In tankers not exceeding 150 metres in length, anywhere in the ship's length between adjacent transverse bulkheads with the exception of the machinery space. For tankers of 100 metres or less in length where all requirements of paragraph (3) of this Regulation cannot be fulfilled without materially impairing the operational qualities of the ship, Administrations may allow relaxations from these requirements.

Ballast conditions where the tanker is not carrying oil in cargo tanks excluding any oil residues, shall not be considered.

- (2) The following provisions regarding the extent and the character of the assumed damage shall apply:
- (a) The extent of side or bottom damage shall be as specified in Regulation 22 of this Annex, except that the longitudinal extent of bottom damage within 0.3L from the forward perpendicular shall be the same as for side damage, as specified in Regulation 22(1)(a)(i) of this Annex. If any damage of lesser extent results in a more severe condition such damage shall be assumed.
 - (b) Where the damage involving transverse bulkheads is envisaged as specified in subparagraphs 11)(a) and (b) of this Regulation, transverse watertight bulkheads shall be spaced at least at a distance equal to the longitudinal extent of assumed damage specified in sub-paragraph (a) of this paragraph in order to be considered effective. Where transverse bulkheads are spaced at a lesser distance, one or more of these bulkheads within such extent of damage shall be assumed as non-existent for the purpose of determining flooded compartments.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (c) Where the damage between adjacent transverse watertight bulkheads is envisaged as specified in sub-paragraph (1)(c) of this Regulation, no main transverse bulkhead or a transverse bulkhead bounding side tanks or double bottom tanks shall be assumed damaged, unless:
- (i) The spacing of the adjacent bulkheads is less than the longitudinal extent of assumed damage specified in sub-paragraph (a) of this paragraph; or
 - (ii) There is a step or a recess in a transverse bulkhead of more than 3.05 metres in length, located within the extent of penetration of assumed damage. The step formed by the after peak bulkhead and after peak tank top shall not be regarded as a step for the purpose of this Regulation.
- (d) If pipes, ducts or tunnels are situated within the assumed extent of damage, arrangements shall be made so that progressive flooding cannot thereby extend to compartments other than those assumed to be floodable for each case of damage.
- (3) Oil tankers shall be regarded as complying with the damage stability criteria if the following requirements are met:
- (a) The final waterline, taking into account sinkage, heel and trim, shall be below the lower edge of any opening through which progressive flooding may take place. Such openings shall include air pipes and those which are closed by means of weathertight doors or hatch covers and may exclude those openings closed by means of watertight manhole covers and flush scuttles, small watertight cargo tank hatch covers which maintain the high integrity of the deck, remotely operated watertight sliding doors, and side scuttles of the non-opening type.
 - (b) In the final stage of flooding, the angle of heel due to unsymmetrical flooding shall not exceed 25 degrees, provided that this angle may be increased up to 30 degrees if no deck edge immersion occurs.
 - (c) The stability in the final stage of flooding shall be investigated and may be regarded as sufficient if the righting lever curve has at least a range of 20 degrees beyond the position of equilibrium in association with a maximum residual righting lever of at least 0.1 metre. The Administration shall give consideration to the potential hazard presented by protected or unprotected openings which may become temporarily immersed within the range of residual stability.
 - (d) The Administration shall be satisfied that the stability is sufficient during intermediate stages of flooding.
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BRUNEI DARUSSALAM TREATY SERIES

Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973

(4) The requirements of paragraph (1) of this Regulation shall be confirmed by calculations which take into consideration the design characteristics of the ship, the arrangements, configuration and contents of the damaged compartments; and the distribution, specific gravities and the free surface effect of liquids. The calculations shall be based on the following:

(a) Account shall be taken of any empty or partially filled tank, the specific gravity of cargoes carried, as well as any outflow of liquids from damaged compartments.

(b) The permeabilities are assumed as follows:

<i>Spaces</i>	<i>Permeability</i>
Appropriated to stores	0.60
Occupied by accommodation	0.95
Occupied by machinery	0.85
Voids	0.95
Intended for consumable liquids	0 or 0.95*
Intended for other liquids	0 to 0.95**
* Whichever results in the more severe requirements.	
** The permeability of partially filled compartments shall be consistent with the amount of liquid carried.	

(c) The buoyancy of any superstructure directly above the side damage shall be disregarded. The unflooded parts of superstructures beyond the extent of damage, however, may be taken into consideration provided that they are separated from the damaged space by watertight bulkheads and the requirements of sub-paragraph (3)(a) of this Regulation in respect of these intact spaces are complied with. Hinged water tight doors may be acceptable in watertight bulkheads in the superstructure.

(d) The free surface effect shall be calculated at an angle of heel of 5 degrees for each individual compartment. The Administration may require or allow the free surface corrections to be calculated at an angle of heel greater than 5 degrees for partially filled tanks.

(e) In calculating the effect of free surfaces of consumable liquids it shall be assumed that, for each type of liquid at least one transverse pair or a single centreline tank has a free surface and the tank or combination of tanks to be taken into account shall be those where the effect of free surfaces is the greatest.

(5) The Master of every oil tanker and the person in charge of a non-self-propelled oil tanker to which this Annex applies shall be supplied in an approved form with:

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (a) Information relative to loading and distribution of cargo necessary to ensure compliance with the provisions of this Regulation; and
- (b) Data on the ability of the ship to comply with damage stability criteria as determined by this Regulation, including the effect of relaxations that may have been allowed under sub-paragraph (1)(c) of this Regulation.

APPENDIX I LIST OF OILS²³

<i>Asphalt solutions</i>	<i>Gasoline Blending Stocks</i>
Blending stocks	Alkylates—fuel
Roofers flux	Reformates
Straight run residue	Polymer—fuel
<i>Oils</i>	<i>Gasolines</i>
Clarified	Casinghead (natural)
Crude oil	Automotive
Mixtures containing crude oil	Aviation
Diesel oil	Straight run
Fuel oil No. 4	Fuel oil No. 1 (kerosene)
Fuel oil No. 5	Fuel oil No. 1-D
Fuel oil No. 6	Fuel oil No. 2
Residual fuel oil	Fuel oil No. 2-D
Road oil	
Transformer oil	<i>Jet Fuels</i>
Aromatic oil (excluding vegetable oil)	JP-1 (kerosene)
Lubricating oils and blending stocks	JP-3
Mineral oil	JP-4
Motor oil	JP-5 (kerosene, heavy)
Penetrating oil	Turbo fuel
Spindle oil	Kerosene
Turbine oil	Mineral spirit
<i>Distillates</i>	
Straight run	<i>Naphtha</i>
Flashed feed stocks	Solvent
<i>Gas Oil</i>	Petroleum

²³ The list of oils shall not necessarily be considered as comprehensive.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Cracked	Heartcut distillate oil
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APPENDIX II

FORM OF CERTIFICATE

(Access via <http://treaties.un.org/doc/Publication/UNTS/Volume%201340/volume-1340-I-22484-English.pdf>)

APPENDIX III

FORM OF OIL RECORD BOOK

(Access via <http://treaties.un.org/doc/Publication/UNTS/Volume%201340/volume-1340-I-22484-English.pdf>)

ANNEX II

**REGULATIONS FOR THE CONTROL OF POLLUTION BY NOXIOUS LIQUID
SUBSTANCES IN BULK**

Regulation 1

Definitions

For the purposes of this Annex:

- (1) "Chemical tanker" means a ship constructed or adapted primarily to carry a cargo of noxious liquid substances in bulk and includes an "oil tanker" as defined in Annex I of the present Convention when carrying a cargo or part cargo of noxious liquid substances in bulk.
- (2) "Clean ballast" means ballast carried in a tank which, since it was last used to carry a cargo containing a substance in Category A, B, C or D has been thoroughly cleaned and the residues resulting therefrom have been discharged and the tank emptied in accordance with the appropriate requirements of this Annex.
- (3) "Segregated ballast" means ballast water introduced into a tank permanently allocated to the carriage of ballast or to the carriage of ballast or cargoes other than oil or noxious liquid substances as variously defined in the Annexes of the present Convention, and which is completely separated from the cargo and oil fuel system.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (4) "Nearest land" is as defined in Regulation 1(9) of Annex I of the present Convention.
- (5) "Liquid substances" are those having a vapour pressure not exceeding 2.8 kp/cm² at a temperature of 37.8°C.
- (6) "Noxious liquid substance" means any substance designated in Appendix II to this Annex or provisionally assessed under the provisions of Regulation 3(4) as falling into Category A, B, C or D.
- (7) "Special area" means a sea area where for recognized technical reasons in relation to its oceanographic and ecological condition and to its peculiar transportation traffic the adoption of special mandatory methods for the prevention of sea pollution by noxious liquid substances is required.

Special areas shall be:

- a. The Baltic Sea Area, and
- b. The Black Sea Area.

- (8) "Baltic Sea Area" is as defined in Regulation 19(1)(b) of Annex I of the present Convention.
- (9) "Black Sea Area" is as defined in Regulation 10(1)(c) of Annex I of the present Convention.

Regulation 2
Application

- (1) Unless expressly provided otherwise the provisions of this Annex shall apply to all ships carrying noxious liquid substances in bulk.
- (2) Where a cargo subject to the provisions of Annex I of the present Convention is carried in a cargo space of a chemical tanker, the appropriate requirements of Annex I of the present Convention shall also apply.
- (3) Regulation 13 of this Annex shall apply only to ships carrying substances which are categorized for discharge control purposes in Category A, B or C.

Regulation 3
Categorization and Listing of Noxious Liquid Substances

- (1) For the purpose of the Regulations of this Annex, except Regulation 13, noxious liquid substances shall be divided into four categories as follows:
 - (a) Category A—Noxious liquid substances which if discharged into the sea from tank cleaning or deballasting operations would present a major hazard to either marine resources or human health or cause serious harm to amenities or other legitimate uses of the sea and therefore justify the application of stringent anti-pollution measures.
 - (b) Category B—Noxious liquid substances which if discharged into the sea from tank cleaning or deballasting operations would present a hazard to either marine resources or human health or cause harm to amenities or other legitimate uses of the sea and therefore justify the application of special anti-pollution measures.
 - (c) Category C—Noxious liquid substances which if discharged into the sea from tank cleaning or deballasting operations would present a minor hazard to either marine resources or human health or cause minor harm to amenities or other legitimate uses of the sea and therefore require special operational conditions.
 - (d) Category D—Noxious liquid substances which if discharged into the sea from tank cleaning or deballasting operations would present a recognizable hazard to either marine resources or human health or cause minimal harm to amenities or other legitimate uses of the sea and therefore require some attention in operational conditions.
- (2) Guidelines for use in the categorization of noxious liquid substances are given in Appendix I to this Annex.
- (3) The list of noxious liquid substances carried in bulk and presently categorized which are subject to the provisions of this Annex is set out in Appendix II to this Annex.
- (4) Where it is proposed to carry a liquid substance in bulk which has not been categorized under paragraph (1) of this Regulation or evaluated as referred to in Regulation 4(1) of this Annex, the Governments of Parties to the Convention involved in the proposed operation shall establish and agree on a provisional assessment for the proposed operation on the basis of the guidelines referred to in paragraph (2) of this Regulation. Until full agreement between the Governments involved has been reached, the substance shall be carried under the most severe conditions proposed. As soon as possible, but not later than ninety days after its first carriage, the Administration concerned shall notify the Organization and provide details of the substance and the provisional assessment for

prompt circulation to all Parties for their information and consideration. The Government of each Party shall have a period of ninety days in which to forward its comments to the Organization, with a view to the assessment of the substance.

Regulation 4
Other Liquid Substances

- (1) The substances listed in Appendix III to this Annex have been evaluated and found to fall outside the Categories A, B, C and D, as defined in Regulation 3(1) of this Annex because they are presently considered to present no harm to human health, marine resources, amenities or other legitimate uses of the sea, when discharged into the sea from tank cleaning or deballasting operations.
- (2) The discharge of bilge or ballast water or other residues or mixtures containing only substances listed in Appendix III to this Annex shall not be subject to any requirement of this Annex.
- (3) The discharge into the sea of clean ballast or segregated ballast shall not be subject to any requirement of this Annex.

Regulation 5
Discharge of Noxious Liquid Substances

Categories A, B and C Substances outside Special Areas and Category D Substances in all Areas

Subject to the provisions of Regulation 6 of this Annex,

- (1) The discharge into the sea of substances in Category A as defined in Regulation 3(1)(a) of this Annex or of those provisionally assessed as such or ballast water, tank washings, or other residues or mixtures containing such substances shall be prohibited. If tanks containing such substances or mixtures are to be washed, the resulting residues shall be discharged to a reception facility until the concentration of the substance in the effluent to such facility is at or below the residual concentration prescribed for that substance in column III of Appendix II to this Annex and until the tank is empty. Provided that the residue then remaining in the tank is subsequently diluted by the addition of a volume of water of not less than 5 per cent of the total volume of the tank, it may be discharged into the sea when all the following conditions are also satisfied:
 - (a) The ship is proceeding en route at a speed of at least 7 knots in the case of self-propelled ships or at least 4 knots in the case of ships which are not self-propelled;

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (b) The discharge is made below the waterline, taking into account the location of the seawater intakes; and
 - (c) The discharge is made at a distance of not less than 12 nautical miles from the nearest land and in a depth of water of not less than 25 metres.
- (2) The discharge into the sea of substances in Category B as defined in Regulation 3(1)(b) of this Annex or of those provisionally assessed as such, or ballast water, tank washings, or other residues or mixtures containing such substances shall be prohibited except when all the following conditions are satisfied:
- (a) The ship is proceeding en route at a speed of at least 7 knots in the case of self-propelled ships or at least 4 knots in the case of ships which are not self-propelled;
 - (b) The procedures and arrangements for discharge are approved by the Administration. Such procedures and arrangements shall be based upon standards developed by the Organization and shall ensure that the concentration and rate of discharge of the effluent is such that the concentration of the substance in the wake astern of the ship does not exceed 1 part per million;
 - (c) The maximum quantity of cargo discharged from each tank and its associated piping system does not exceed the maximum quantity approved in accordance with the procedures referred to in subparagraph (b) of this paragraph, which shall in no case exceed the greater of 1 cubic metre of 1/3,000 of the tank capacity in cubic metres;
 - (d) The discharge is made below the waterline, taking into account the location of the seawater intakes; and
 - (e) The discharge is made at a distance of not less than 12 nautical miles from the nearest land and in a depth of water of not less than 25 metres.
- (3) The discharge into the sea of substances in Category C as defined in Regulation 3(1)(c) of this Annex or of those provisionally assessed as such, or ballast water, tank washings, or other residues or mixtures containing such substances shall be prohibited except when all the following conditions are satisfied:
- (a) The ship is proceeding en route at a speed of at least 7 knots in the case of self-propelled ships or at least 4 knots in the case of ships which are not self-propelled;
 - (b) The procedures and arrangements for discharge are approved by the Administration. Such procedures and arrangements shall be based upon standards developed by the
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BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Organization and shall ensure that the concentration and rate of discharge of the effluent is such that the concentration of the substance in the wake astern of the ship does not exceed 10 parts per million;

- (c) The maximum quantity of cargo discharged from each tank and its associated piping system does not exceed the maximum quantity approved in accordance with the procedures referred to in subparagraph (b) of this paragraph, which shall in no case exceed the greater of 3 cubic metres or 1/1,000 of the tank capacity in cubic metres;
 - (d) The discharge is made below the waterline, taking into account the location of the seawater intakes; and
 - (e) The discharge is made at a distance of not less than 12 nautical miles from the nearest land and in a depth of water of not less than 25 metres.
- (4) The discharge into the sea of substances in Category D as defined in Regulation 31(1)(d) of this Annex, or of those provisionally assessed as such, or ballast water, tank washings, or other residues or mixtures containing such substances shall be prohibited except when all the following conditions are satisfied:
- (a) The ship is proceeding en route at a speed of at least 7 knots in the case of self-propelled ships or at least 4 knots in the case of ships which are not self-propelled;
 - (b) Such mixtures are of a concentration not greater than one part of the substance in ten parts of water; and
 - (c) The discharge is made at a distance of not less than 12 nautical miles from the nearest land.
- (5) Ventilation procedures approved by the Administration may be used to remove cargo residues from a tank. Such procedures shall be based upon standards developed by the Organization. If subsequent washing of the tank is necessary, the discharge into the sea of the resulting tank washings shall be made in accordance with paragraph (1), (2), (3) or (4) of this Regulation, whichever is applicable.
- (6) The discharge into the sea of substances which have not been categorized, provisionally assessed, or evaluated as referred to in Regulation 4(1) of this Annex, or of ballast water, tank washings, or other residues or mixtures containing such substances shall be prohibited.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Categories A, B and C Substances within Special Areas

Subject to the provisions of Regulation 6 of this Annex,

- (7) The discharge into the sea of substances in Category A as defined in Regulation 3(1)(a) of this Annex or of those provisionally assessed as such, or ballast water, tank washings, or other residues or mixtures containing such substances shall be prohibited. If tanks containing such substances or mixtures are to be washed the resulting residues shall be discharged to a reception facility which the States bordering the special area shall provide in accordance with Regulation 7 of this Annex, until the concentration of the substance in the effluent to such facility is at or below the residual concentration prescribed for that substance in column IV of Appendix II to this Annex and until the tank is empty. Provided that the residue then remaining in the tank is subsequently diluted by the addition of a volume of water of not less than 5 per cent of the total volume of the tank, it may be discharged into the sea when all the following conditions are also satisfied:
- (a) The ship is proceeding en route at a speed of at least 7 knots in the case of self-propelled ships or at least 4 knots in the case of ships which are not self-propelled;
 - (b) The discharge is made below the waterline, taking into account the location of the seawater intakes; and
 - (c) The discharge is made at a distance of not less than 12 nautical miles from the nearest land and in a depth of water of not less than 25 metres.
- (8) The discharge into the sea of substances in Category B as defined in Regulation 3(1)(b) of this Annex or of those provisionally assessed as such, or ballast water, tank washings, or other residues or mixtures containing such substances shall be prohibited except when all the following conditions are satisfied:
- (a) The tank has been washed after unloading with a volume of water of not less than 0.5 per cent of the total volume of the tank, and the resulting residues have been discharged to a reception facility until the tank is empty;
 - (b) The ship is proceeding en route at a speed of at least 7 knots in the case of self-propelled ships or at least 4 knots in the case of ships which are not self-propelled;
 - (c) The procedures and arrangements for discharge and washings are approved by the Administration. Such procedures and arrangements shall be based upon standards developed by the Organization and shall ensure that the concentration and rate of discharge of the effluent is such that the concentration of the substance in the wake astern of the ship does not exceed 1 part per million;

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (d) The discharge is made below the waterline, taking into account the location of the seawater intakes; and
 - (e) The discharge is made at a distance of not less than 12 nautical miles from the nearest land and in a depth of water of not less than 25 metres.
- (9) The discharge into the sea of substances in Category C as defined in Regulation 3(1)(c) of this Annex or of those provisionally assessed as such, or ballast water, tank washings, or other residues or mixtures containing such substances shall be prohibited except when all the following conditions are satisfied:
- (a) The ship is proceeding en route at a speed of at least 7 knots in the case of self-propelled ships or at least 4 knots in the case of ships which are not self-propelled;
 - (b) The procedures and arrangements for discharge are approved by the Administration. Such procedures and arrangements shall be based upon standards developed by the Organization and shall ensure that the concentration and rate of discharge of the effluent is such that the concentration of the substance in the wake astern of the ship does not exceed 1 part per million;
 - (c) The maximum quantity of cargo discharged from each tank and its associated piping system does not exceed the maximum quantity approved in accordance with the procedures referred to in subparagraph (b) of this paragraph which shall in no case exceed the greater of 1 cubic metre or 1/3,000 of the tank capacity in cubic metres;
 - (d) The discharge is made below the waterline, taking into account the location of the seawater intakes; and
 - (e) The discharge is made at a distance of not less than 12 nautical miles from the nearest land and in a depth of water of not less than 25 metres.
- (10) Ventilation procedures approved by the Administration may be used to remove cargo residues from a tank. Such procedures shall be based upon standards developed by the Organization. If subsequent washing of the tank is necessary, the discharge into the sea of the resulting tank washings shall be made in accordance with paragraph (7), (8) or (9) of this Regulation, whichever is applicable.
- (11) The discharge into the sea of substances which have not been categorized, provisionally assessed or evaluated as referred to in Regulation 4(1) of this Annex, or of ballast water, tank washings, or other residues or mixtures containing such substances shall be prohibited.
-

- (12) Nothing in this Regulation shall prohibit a ship from retaining on board the residues from a Category B or C cargo and discharging such residues into the sea outside a special area in accordance with paragraph (2) or (3) of this Regulation, respectively.
- (13)
- (a) The Governments of Parties to the Convention, the coastlines of which border on any given special area, shall collectively agree and establish a date by which time the requirement of Regulation 7(1) of this Annex will be fulfilled and from which the requirements of paragraphs (7), (8), (9) and (10) of this Regulation in respect of that area shall take effect and notify the Organization of the date so established at least six months in advance of that date. The Organization shall then promptly notify all Parties of that date.
- (b) If the date of entry into force of the present Convention is earlier than the date established in accordance with sub-paragraph (a) of this paragraph, the requirements of paragraphs (1), (2) and (3) of this Regulation shall apply during the interim period.

Regulation 6
Exceptions

Regulation 5 of this Annex shall not apply to:

- (a) The discharge into the sea of noxious liquid substances or mixtures containing such substances necessary for the purpose of securing the safety of a ship or saving life at sea; or
- (b) The discharge into the sea of noxious liquid substances or mixtures containing such substances resulting from damage to a ship or its equipment:
- (i) Provided that all reasonable precautions have been taken after the occurrence of the damage or discovery of the discharge for the purpose of preventing or minimizing the discharge; and
- (ii) Except if the owner or the Master acted either with intent to cause damage, or recklessly and with knowledge that damage would probably result; or
- (c) The discharge into the sea of noxious liquid substances or mixtures containing such substances, approved by the Administration, when being used for the purpose of combating specific pollution incidents in order to minimize the damage from pollution. Any such discharge shall be subject to the approval of any Government in whose jurisdiction it is contemplated the discharge will occur.

Regulation 7
Reception Facilities

- (1) The Government of each Party to the Convention undertakes to ensure the provision of reception facilities according to the needs of ships using its ports, terminals or repair ports as follows:
 - (a) Cargo loading and unloading ports and terminals shall have facilities adequate for reception without undue delay to ships of such residues and mixtures containing noxious liquid substances as would remain for disposal from ships carrying them as a consequence of the application of this Annex; and
 - (b) Ship repair ports undertaking repairs to chemical tankers shall have facilities adequate for the reception of residues and mixtures containing noxious liquid substances.
- (2) The Government of each Party shall determine the types of facilities provided for the purpose of paragraph (1) of this Regulation at each cargo loading and unloading port, terminal and ship repair port in its territories and notify the Organization thereof.
- (3) Each Party shall notify the Organization, for transmission to the Parties concerned, of any case where facilities required under paragraph (1) of this Regulation are alleged to be inadequate.

Regulation 8
Measures of Control

- (1) The Government of each Party to the Convention shall appoint or authorize surveyors for the purpose of implementing this Regulation.

Category A Substances in all Areas

- (2)
 - (a) If a tank is partially unloaded or unloaded but not cleaned, an appropriate entry shall be made in the Cargo Record Book.
 - (b) Until that tank is cleaned every subsequent pumping or transfer operation carried out in connexion with that tank shall also be entered in the Cargo Record Book.
- (3) If the tank is to be washed:

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (a) The effluent from the tank washing operation shall be discharged from the ship to a reception facility at least until the concentration of the substance in the discharge, as indicated by analyses of samples of the effluent taken by the surveyor, has fallen to the residual concentration specified for that substance in Appendix II to this Annex. When the required residual concentration has been achieved, remaining tank washings shall continue to be discharged to the reception facility until the tank is empty. Appropriate entries of these operations shall be made in the Cargo Record Book and certified by the surveyor; and
 - (b) After diluting the residue then remaining in the tank with at least 5 per cent of the tank capacity of water, this mixture may be discharged into the sea in accordance with the provisions of sub-paragraphs (1)(a), (b) and (c) or 7(a), (b) and (c), whichever is applicable, of Regulation 5 of this Annex. Appropriate entries of these operations shall be made in the Cargo Record Book.
- (4) Where the Government of the receiving Party is satisfied that it is impracticable to measure the concentration of the substance in the effluent without causing undue delay to the ship, that Party may accept an alternative procedure as being equivalent to sub-paragraph (3)(a) provided that:
- (a) A precleaning procedure for that tank and that substance, based on standards developed by the Organization, is approved by the Administration and that Party is satisfied that such procedure will fulfil the requirements of paragraph (1) or (7), whichever is applicable, of Regulation 5 of this Annex with respect to the attainment of the prescribed residual concentrations;
 - (b) A surveyor duly authorized by that Party shall certify in the Cargo Record Book that:
 - (i) The tank, its pump and piping system have been emptied, and that the quantity of cargo remaining in the tank is at or below the quantity on which the approved precleaning procedure referred to in sub-paragraph (ii) of this paragraph has been based;
 - (ii) Precleaning has been carried out in accordance with the precleaning procedure approved by the Administration for that tank and that substance; and
 - (iii) The tank washings resulting from such precleaning have been discharged to a reception facility and the tank is empty;
 - (c) The discharge into the sea of any remaining residues shall be in accordance with the provisions of paragraph (3)(b) of this Regulation and an appropriate entry is made in the Cargo Record Book.
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Category B Substances outside Special Areas and Category C Substances in all Areas

- (5) Subject to such surveillance and approval by the authorized or appointed surveyor as may be deemed necessary by the Government of the Party, the Master of a ship shall, with respect to a Category B substance outside special areas or a Category C substance in all areas, ensure compliance with the following:
- (a) If a tank is partially unloaded or unloaded but not cleaned, an appropriate entry shall be made in the Cargo Record Book.
 - (b) If the tank is to be cleaned at sea:
 - (i) The cargo piping system serving that tank shall be drained and an appropriate entry made in the Cargo Record Book;
 - (ii) The quantity of substance remaining in the tank shall not exceed the maximum quantity which may be discharged into the sea for that substance under Regulation 5(2)(c) of this Annex outside special areas in the case of Category B substances, or under Regulations 5(3)(c) and 5(9)(c) outside and within special areas respectively in the case of Category C substances. An appropriate entry shall be made in the Cargo Record Book;
 - (iii) Where it is intended to discharge the quantity of substance remaining into the sea the approved procedures shall be complied with, and the necessary dilution of the substance satisfactory for such a discharge shall be achieved. An appropriate entry shall be made in the Cargo Record Book; or
 - (iv) Where the tank washings are not discharged into the sea, if any internal transfer of tank washings takes place from that tank an appropriate entry shall be made in the Cargo Record Book; and
 - (v) Any subsequent discharge into the sea of such tank washings shall be made in accordance with the requirements of Regulation 5 of this Annex for the appropriate area and Category of substance involved.
 - (c) If the tank is to be cleaned in port:
 - (i) The tank washings shall be discharged to a reception facility and an appropriate entry shall be made in the Cargo Record Book; or
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BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (ii) The tank washings shall be retained on board the ship and an appropriate entry shall be made in the Cargo Record Book indicating the location and disposition of the tank washings.

- (d) If after unloading a Category C substance within a special area, any residues or tank washings are to be retained on board until the ship is outside the special area, the Master shall so indicate by an appropriate entry in the Cargo Record Book and in this case the procedures set out in Regulation 5(3) of this Annex shall be applicable.

Category B Substances within Special Areas

- (6) Subject to such surveillance and approval by the authorized or appointed surveyor as may be deemed necessary by the Government of the Party, the Master of a ship shall, with respect to a Category B substance within a special area, ensure compliance with the following:
 - (a) If a tank is partially unloaded or unloaded but not cleaned, an appropriate entry shall be made in the Cargo Record Book.
 - (b) Until that tank is cleaned every subsequent pumping or transfer operation carried out in connexion with that tank shall also be entered in the Cargo Record Book.
 - (c) If the tank is to be washed, the effluent from the tank washing operation, which shall contain a volume of water not less than 0.5 per cent of the total volume of the tank, shall be discharged from the ship to a reception facility until the tank, its pump and piping system are empty. An appropriate entry shall be made in the Cargo Record Book.
 - (d) If the tank is to be further cleaned and emptied at sea, the Master shall:
 - (i) Ensure that the approved procedures referred to in Regulation 5(8)(c) of this Annex are complied with and that the appropriate entries are made in the Cargo Record Book; and
 - (ii) Ensure that any discharge into the sea is made in accordance with the requirements of Regulation 5(8) of this Annex and an appropriate entry is made in the Cargo Record Book.
 - (e) If after unloading a Category B substance within a special area, any residues or tank washings are to be retained on board until the ship is outside the special area, the

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*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Master shall so indicate by an appropriate entry in the Cargo Record Book and in this case the procedures set out in Regulation 5(2) of this Annex shall be applicable.

Category D Substances in all Areas

(7) The Master of a ship shall, with respect to a Category D substance, ensure compliance with the following:

(a) If a tank is partially unloaded or unloaded but not cleaned, an appropriate entry shall be made in the Cargo Record Book.

(b) If the tank is to be cleaned at sea:

(i) The cargo piping system serving that tank shall be drained and an appropriate entry made in the Cargo Record Book;

(ii) Where it is intended to discharge the quantity of substance remaining into the sea, the necessary dilution of the substance satisfactory for such a discharge shall be achieved. An appropriate entry shall be made in the Cargo Record Book; or

(iii) Where the tank washings are not discharged into the sea, if any internal transfer of tank washings takes place from that tank an appropriate entry shall be made in the Cargo Record Book; and

(iv) Any subsequent discharge into the sea of such tank washings shall be made in accordance with the requirements of Regulation 5(4) of this Annex.

(c) If the tank is to be cleaned in port:

(i) The tank washings shall be discharged to a reception facility and an appropriate entry shall be made in the Cargo Record Book; or

(ii) The tank washings shall be retained on board the ship and an appropriate entry shall be made in the Cargo Record Book indicating the location and disposition of the tank washings.

Discharge from a Slop Tank

(8) Any residues retained on board in a slop tank, including those from pump room bilges, which contain a Category A substance, or within a special area either a Category A or a

Category B substance, shall be discharged to a reception facility in accordance with the provisions of Regulation 5(1), (7) or (8) of this Annex, whichever is applicable. An appropriate entry shall be made in the Cargo Record Book.

- (9) Any residues retained on board in a slop tank, including those from pump room bilges, which, contain a quantity of a Category B substance outside a special area or a Category C substance in all areas in excess of the aggregate of the maximum quantities specified in Regulation 5(2)(c), (3)(c) or (9)(c) of this Annex, whichever is applicable, shall be discharged to a reception facility. An appropriate entry shall be made in the Cargo Record Book.

Regulation 9
Cargo Record Book

- (1) Every ship to which this Annex applies shall be provided with a Cargo Record Book, whether as part of the ship's official log book or otherwise, in the form specified in Appendix IV to this Annex.
- (2) The Cargo Record Book shall be completed, on a tank-to-tank basis, whenever any of the following operations with respect to a noxious liquid substance take place in the ship:
- i. Loading of cargo;
 - ii. Unloading of cargo;
 - iii. Transfer of cargo;
 - iv. Transfer of cargo, cargo residues or mixtures containing cargo to a slop tank;
 - v. Cleaning of cargo tanks;
 - vi. Transfer from slop tanks;
 - vii. Ballasting of cargo tanks;
 - viii. Transfer of dirty ballast water;
 - ix. Discharge into the sea in accordance with Regulation 5 of this Annex.
- (3) In the event of any discharge of the kind referred to in Article [8] of the present Convention and Regulation 6 of this Annex of any noxious liquid substance or mixture containing such substance, whether intentional or accidental, an entry shall be made in the Cargo Record Book stating the circumstances of, and the reason for, the discharge.
- (4) When a surveyor appointed or authorized by the Government of the Party to the Convention to supervise any operations under this Annex has inspected a ship, then that surveyor shall make an appropriate entry in the Cargo Record Book.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (5) Each operation referred to in paragraphs (2) and (3) of this Regulation shall be fully recorded without delay in the Cargo Record Book so that all the entries in the Book appropriate to that operation are completed. Each entry shall be signed by the officer or officers in charge of the operation concerned and, when the ship is manned, each page shall be signed by the Master of the ship. The entries in the Cargo Record Book shall be in an official language of the State whose flag the ship is entitled to fly, and, for ships holding an International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk (1973) in English or French. The entries in an official national language of the State whose flag the ship is entitled to fly shall prevail in case of a dispute or discrepancy.
- (6) The Cargo Record Book shall be kept in such a place as to be readily available for inspection and, except in the case of unmanned ships under tow, shall be kept on board the ship. It shall be retained for a period of two years after the last entry has been made.
- (7) The competent authority of the Government of a Party may inspect the Cargo Record Book on board any ship to which this Annex applies while the ship is in its port, and may make a copy of any entry in that book and may require the Master of the ship to certify that the copy is a true copy of such entry. Any copy so made which has been certified by the Master of the ship as a true copy of an entry in the ship's Cargo Record Book shall be made admissible in any judicial proceedings as evidence of the facts stated in the entry. The inspection of a Cargo Record Book and the taking of a certified copy by the competent authority under this paragraph shall be performed as expeditiously as possible without causing the ship to be unduly delayed.

Regulation 10

Surveys

- (1) Ships which are subject to the provisions of this Annex and which carry noxious liquid substances in bulk shall be surveyed as follows:
- (a) An initial survey before a ship is put into service or before the certificate required by Regulation 11 of this Annex is issued for the first time, which shall include a complete inspection of its structure, equipment, fittings, arrangements and material in so far as the ship is covered by this Annex. The survey shall be such as to ensure full compliance with the applicable requirements of this Annex.
- (b) Periodical surveys at intervals specified by the Administration which shall not exceed five years and which shall be such as to ensure that the structure, equipment, fittings, arrangements and material fully comply with the applicable requirements of this Annex. However, where the duration of the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk (1973) is extended

as specified in Regulation 12(2) or (4) of this Annex, the interval of the periodical survey may be extended correspondingly.

- (c) Intermediate surveys at intervals specified by the Administration which shall not exceed thirty months and which shall be such as to ensure that the equipment and associated pump and piping systems, fully comply with the applicable requirements of this Annex and are in good working order. The survey shall be endorsed on the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk (1973) issued under Regulation 11 of this Annex.
- (2) Surveys of a ship with respect to the enforcement of the provisions of this Annex shall be carried out by officers of the Administration. The Administration may, however, entrust the surveys either to surveyors nominated for the purpose or to organizations recognized by it. In every case the Administration concerned shall fully guarantee the completeness and efficiency of the surveys.
- (3) After any survey of a ship under this Regulation has been completed, no significant change shall be made in the structure, equipment, fittings, arrangements or material, covered by the survey without the sanction of the Administration, except the direct replacement of such equipment and fittings for the purpose of repair or maintenance.

Regulation 11
Issue of Certificate

- (1) An International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk (1973) shall be issued to any ship carrying noxious liquid substances which is engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to the Convention after survey of such ship in accordance with the provisions of Regulation 10 of this Annex.
- (2) Such Certificate shall be issued either by the Administration or by a person or organization duly authorized by it. In every case the Administration shall assume full responsibility for the Certificate.
- (3)
 - (a) The Government of a Party may, at the request of the Administration, cause a ship to be surveyed and if satisfied that the provisions of this Annex are complied with shall issue or authorize the issue of a Certificate to the ship in accordance with this Annex.
 - (b) A copy of the Certificate and a copy of the survey report shall be transmitted as soon as possible to the requesting Administration.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (c) A Certificate so issued shall contain a statement to the effect that it has been issued at the request of the Administration and shall have the same force and receive the same recognition as a certificate issued under paragraph (1) of this Regulation.
 - (d) No International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk (1973) shall be issued to any ship which is entitled to fly the flag of a State which is not a Party.
- (4) The Certificate shall be drawn up in an official language of the issuing country in a form corresponding to the model given in Appendix V to this Annex. If the language used is neither English nor French, the text shall include a translation into one of these languages.

Regulation 12
Duration of Certificate

- (1) An International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk (1973) shall be issued for a period specified by the Administration, which shall not exceed five years from the date of issue, except as provided in paragraphs (2) and (4) of this Regulation.
- (2) If a ship at the time when the Certificate expires is not in a port or offshore terminal under the jurisdiction of the Party to the Convention whose flag the ship is entitled to fly, the Certificate may be extended by the Administration, but such extension shall be granted only for the purpose of allowing the ship to complete its voyage to the State whose flag the ship is entitled to fly or in which it is to be surveyed and then only in cases where it appears proper and reasonable to do so.
- (3) No Certificate shall be thus extended for a period longer than five months and a ship to which such extension is granted shall not on its arrival in the State whose flag it is entitled to fly or the port in which it is to be surveyed, be entitled by virtue of such extension to leave that port or State without having obtained a new Certificate.
- (4) A Certificate which has not been extended under the provisions of paragraph (2) of this Regulation may be extended by the Administration for a period of grace of up to one month from the date of expiry stated on it.
- (5) A Certificate shall cease to be valid if significant alterations have taken place in the structure, equipment, fittings, arrangements and material required by this Annex without the sanction of the Administration, except the direct replacement of such equipment or fitting for the purpose of repair or maintenance or if intermediate surveys as specified by the Administration under Regulation 10(1)(c) of this Annex are not carried out.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (6) A Certificate issued to a ship shall cease to be valid upon transfer of such a ship to the flag of another State, except as provided in paragraph (7) of this Regulation.
- (7) Upon transfer of a ship to the flag of another Party, the Certificate shall remain in force for a period not exceeding five months provided that it would not have expired before the end of that period, or until the Administration issues a replacement Certificate, whichever is earlier. As soon as possible after the transfer has taken place the Government of the Party whose flag the ship was formerly entitled to fly shall transmit to the Administration a copy of the Certificate carried by the ship before the transfer and, if available, a copy of the relevant survey report.

Regulation 13

Requirements for Minimizing Accidental Pollution

- (1) The design, construction, equipment and operation of ships carrying noxious liquid substances in bulk which are subject to the provisions of this Annex shall be such as to minimize the uncontrolled discharge into the sea of such substances.
- (2) Pursuant to the provisions of paragraph (1) of this Regulation, the Government of each Party shall issue, or cause to be issued, detailed requirements on the design, construction, equipment and operation of such ships.
- (3) In respect of chemical tankers, the requirements referred to in paragraph (2) of this Regulation shall contain at least all the provisions given in the Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk adopted by the Assembly of the Organization in Resolution A.212(VII) and as may be amended by the Organization, provided that the amendments to that Code are adopted and brought into force in accordance with the provisions of Article 16 of the present Convention for amendment procedures to an Appendix to an Annex.

APPENDIX I

**GUIDELINES FOR THE CATEGORIZATION OF NOXIOUS LIQUID
SUBSTANCES**

Category A

Substances which are bioaccumulated and liable to produce a hazard to aquatic life or human health; or which are highly toxic to aquatic life (as expressed by a Hazard Rating 4, defined by a TLM less than 1 ppm); and additionally certain substances which are moderately toxic to aquatic life (as expressed by a Hazard Rating 3, defined by a TLM of 1 or more, but less than 10 ppm) when particular weight is given to additional factors in the hazard profile or to special characteristics of the substance.

BRUNEI DARUSSALAM TREATY SERIES

Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973

Category B

Substances which are bioaccumulated with a short retention of the order of one week or less; or which are liable to produce tainting of the sea food; or which are moderately toxic to aquatic life (as expressed by a Hazard Rating 3, defined by a TLM of 1 ppm or more, but less than 10 ppm); and additionally certain substances which are slightly toxic to aquatic life (as expressed by a Hazard Rating 2, defined by a TLM of 10 ppm or more, but less than 100 ppm) when particular weight is given to additional factors in the hazard profile or to special characteristics of the substance.

Category C

Substances which are slightly toxic to aquatic life (as expressed by a Hazard Rating 2, defined by a TLM of 10 or more, but less than 100 ppm); and additionally certain substances which are practically non-toxic to aquatic life (as expressed by a Hazard Rating 1, defined by a TLM of 100 ppm or more, but less than 1,000 ppm) when particular weight is given to additional factors in the hazard profile or to special characteristics of the substance.

Category D

Substances which are practically non-toxic to aquatic life, (as expressed by a Hazard Rating 1, defined by a TLM of 100 ppm or more, but less than 1,000 ppm); or causing deposits blanketing the seafloor with a high biochemical oxygen demand (BOD); or highly hazardous to human health, with an LD₅₀ of less than 5 mg/kg; or produce moderate reduction of amenities because of persistency, smell or poisonous or irritant characteristics, possibly interfering with use of beaches; or moderately hazardous to human health, with an LD₅₀ of 5 mg/kg or more, but less than 50 mg/kg and produce slight reduction of amenities.

Other Liquid Substances (for the purposes of Regulation 4 of this Annex)

Substances other than those categorized in Categories A, B, C and D above.

APPENDIX II

LIST OF NOXIOUS LIQUID SUBSTANCES CARRIED IN BULK

<i>Substance</i>	<i>UN number</i>	<i>Pollution category for operational discharge</i>	<i>Residual concentration (per cent by weight)</i>	
		<i>(Regulation 3 of Annex II)</i>	<i>(Regulation 5(1) of Annex II)</i>	<i>(Regulation 5(7) of Annex II)</i>
	<i>I</i>	<i>II</i>	<i>III Outside special</i>	<i>IV Within special areas</i>

BRUNEI DARUSSALAM TREATY SERIES

Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973

			<i>areas</i>	
Acetaldehyde	1089	C		
Acetic acid	1842	C		
Acetic anhydride	1715	C		
Acetone	1090	D		
Acetone cyanohydrin	1541	A	0.1	0.05
Acetyl chloride	1717	C		
Acrolein	1092	C	0.1	0.05
Acrylic acid*	-	C		
Acrylonitrile	1093	B		
Adiponitrile	-	D		
Alkylbenzene sulfonate	-			
(straight chain)		C		
(branched chain)		B		
Allyl alcohol	1098	B		
Allyl chloride	1100	C		
Alum (15% solution)	-	D		
Aminoethylethanolamine (hydroxyethyl-ethylene- diamine)*	-	D		
Ammonia (28% aqueous)	1005	B		
Iso-Amyl acetate	1104	C		
n-Amyl acetate	1104	C		
n-Amyl alcohol	-	D		
Aniline	1547	C		
Benzene	1114	C		
Benzyl alcohol	-	D		
Benzyl chloride	1738	B		
n-Butyl acetate	1123	D		
sec-Butyl acetate	1124	D		
n-Butyl acrylate	-	D		
Butyl butyrate*	-	B		
Butylene glycol(s)	-	D		
Butyl methacrylate	-	D		
n-Butyraldehyde	1129	B		
Butyric acid	-	B		

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Calcium hydroxide (solution)	-	D		
Camphor oil	1130	B		
Carbon disulphide	1131	A	0.01	0.005
Carbon tetrachloride	1846	B		
Caustic potash (potassium hydroxide)	1814	C		
Chloroacetic acid	1750	C		
Chloroform	1888	B		
Chlorohydrins (crude)*	-	D		
Chloroprene*	1991	C		
Chlorosulphonic acid	1754	C		
Para-Chlorotoluene	-	B		
Citric acid (10%-25%)	-	D		
Creosote	1334	A	0.1	0.05
Cresols	2076	A	0.1	0.05
Cresylic acid	2022	A	0.1	0.05
Crotonaldehyde	1143	B		
Cumene	1918	C		
Cyclohexane	1145	C		
Cyclohexanol	-	D		
Cyclohexanone	1915	D		
Cyclohexylamine*	-	D		
para-Cymene (isopropyltoluene)*	2046	D		
Decahydronaphthalene	1147	D		
Decane*	-	D		
Diacetone alcohol*	1148	D		
Dibenzyl ether*	-	C		
Dichlorobenzenes	1591	A	0.1	0.05
Dichloropropene-dichloropropane mixture (D.D. Soil fumigant)	2047	B`		
Diethylamine	1154	C		
Diethylbenzene (mixed isomers)	2049	C		
Diethyle ether	1155	D		

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Diethylenetriamine*	2079	C		
Diethylene glycol monoethyl ether	-	C		
Diethylketone (3-pentanone)	1156	D		
Diisobutylene*	2050	D		
Diisobutyl ketone	1157	D		
Diisopropanolamine	-	C		
Diisopropylamine	1158	C		
Diisopropyl ether*	1159	D		
Dimethylamine (40% aqueous)	1160	C		
Dimethylethanolamine (2-dimethylamino-ethanol)*	2051	C		
Dimethylformamide	-	D		
1,4-Dioxane*	1165	C		
Diphenyl/diphenyloxyde, mixtures*	-	D		
Dodecylbenzene	-	C		
Epichlorohydrin	2023	B		
2-Ethoxyethyl acetate*	1172	D		
Ethyl acetate	1173	D		
Ethyl acrylate	1917	D		
Ethyl amyl ketone*	-	C		
Ethylbenzene	1175	C		
Ethyl cyclohexane	-	D		
Ethylene chlorohydrins (2-chloro-ethanol)	1135	D		
Ethylene cyanohydrins*	-	D		
Ethylenediamine	1604	C		
Ethylene dibromide	1605	B		
Ethylene dichloride	1184	B		
Ethylene glycol monoethyl ether (methyl cellosolve)	1171	D		
2-Ethylhexyl acrylate*	-	D		
2-Ethylhexyl alcohol	-	C		
Ethyl lactate*	1192	D		

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

2-Ethyl 3-propylacrolein*	-	B		
Formaldehyde (37-50% solution)	1198	C		
Formic acid	1779	D		
Furfuryl alcohol	-	C		
Heptanoic acid*	-	D		
Hexamethylenediamine*	1783	C		
Hydrochloric acid	1789	D		
Hydrofluoric acid (40% aqueous)	1790	B		
Hydrogen peroxide (greater than 60%)	2015	C		
Isobutyl acrylate	-	D		
Isobutyl alcohol	1212	D		
Isobutyl methacrylate	-	D		
Isobutyraldehyde	2045	C		
Isooctane*	-	D		
Isopentane	-	D		
Isophorone	-	D		
Isopropylamine	1221	C		
Isopropyl cyclohexane	-	D		
Isoprene	1218	D		
Lactic acid	-	D		
Mesityl oxide*	1229	C		
Methyl acetate	1231	D		
Methyl acrylate	1919	C		
Methylamyl alcohol	-	D		
Methylene chloride	1593	B		
2-Methyl-5-ethylpyridine*	-	B		
Methyl methacrylate	1247	D		
2-Methylpentene*	-	D		
alpha-Methylstyrene*	-	D		
Monochlorobenzene	1134	B		
Monoethanolamine	-	D		
Monoisopropanolamine	-	C		
Monomethyl ethanolamine	-	C		
Mononitrobenzene	-	C		

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Monoisopropylamine	-	C		
Morpholine*	2054	C		
Napthalene (molten)	1334	A	0.1	0.05
Naphthenic acids*	-	A	0.1	0.05
Nitric acid (90%)	2031/2032	C		
2-Nitropropane	-	D		
ortho-Nitrotoluene	1664	C		
Nonyl alcohol*	-	C		
Nonylphenol	-	C		
n-Octanol	-	C		
Oleum	1831	C		
Oxalic acid (10-25%)	-	D		
Pentachloroethane	1669	B		
n-Pentane	1265	C		
Perchloroethylene (tetrachloroethylene)	1897	B		
Phenol	1671	B		
Phosphoric acid	1805	D		
Phosphorus (elemental)	1338	A	0.1	0.05
Phthalic anhydride (molten)	-	C		
beta-Propiolactone*	-	B		
Propionaldehyde	1275	D		
Propionic acid	1848	D		
Propionic anhydride	-	D		
n-Propyl acetate*	1276	C		
n-Propyl alcohol	1274	D		
n-Propylamine	1277	C		
Pyridine	1282	B		
Silicon tetrachloride	1818	D		
Sodium bichromate (solution)	-	C		
Sodium hydroxide	1824	C		
Sodium pentachlorophenate (solution)	-	A	0.1	0.05
Styrene monomer	2055	C		

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Sulphuric acid	1830/1831/1832	C		
Tallow	-	D		
Tetraethyl lead	1649	A	0.1	0.05
Tetrahydrofuran	2056	D		
Tetrahydronaphthalene	1540	C		
Tetramethylbenzene	-	D		
Tetramethyl lead	1649	A	0.1	0.05
Titanium tetrachloride	1838	D		
Toluene	1294	C		
Toluene diisocyanate*	2078	B		
Trichloroethane	-	C		
Trichloroethylene	1710	B		
Triethanolamine	-	D		
Triethylamine	1296	C		
Trimethylbenzene*	-	C		
Tritolyl phosphate (tricresyl phosphate)*	-	B		
Turpentine (wood)	1299	B		
Vinyl acetate	1301	C		
Vinylidene chloride*	1303	B		
Xylenes (mixed isomers)	1307	C		

* Asterisk indicates that the substance has been provisionally included in this list and that further data are necessary in order to complete the evaluation of its environmental hazards, particularly in relation to living resources.

APPENDIX III

LIST OF OTHER LIQUID SUBSTANCES CARRIED IN BULK

Acetonitrile (methyl cyanide)	n-Hexane
tert-Amyl alcohol	Ligroin
n-Butyl alcohol	Methyl alcohol
Butyrolactone	Methylamyl acetate
Calcium chloride (solution)	Methyl ethyl ketone (2-butanone)
Castor oil	Milk
Citric juices	Molasses
Coconut oil	Olive oil

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Cod liver oil	Polypropylene glycol
iso-Decyl alcohol	iso-Propyl acetate
n-Decyl alcohol	iso-Propyl alcohol
Decyl octyl alcohol	Propylene glycol
Dibutyl ether	Propylene oxide
Diethanolamine	Propylene tetramer
Diethylene glycol	Propylene trimer
Dipentene	Sorbitol
Dipropylene glycol	Sulphur (liquid)
Ethyl alcohol	Tridecanol
Ethylene glycol	Triethylene glycol
Fatty alcohols (C ₁₂ -C ₂₀)	Triethylenetetramine
Glycerine	Tripropylene glycol
n-Heptane	Water
Heptene (mixed isomers)	Wine

APPENDIX IV

**CARGO RECORD BOOK FOR SHIPS CARRYING NOXIOUS LIQUID
SUBSTANCES IN BULK**

(Access via <http://treaties.un.org/doc/Publication/UNTS/Volume%201340/volume-1340-I-22484-English.pdf>)

APPENDIX V

FORM OF CERTIFICATE

(Access via <http://treaties.un.org/doc/Publication/UNTS/Volume%201340/volume-1340-I-22484-English.pdf>)

ANNEX III

**REGULATIONS FOR THE PREVENTION OF POLLUTION BY HARMFUL
SUBSTANCES CARRIED BY SEA IN PACKAGED FORMS, OR IN FREIGHT
CONTAINERS, PORTABLE TANKS OR ROAD AND RAIL TANK WAGONS**

Regulation 1

Application

- (1) Unless expressly provided otherwise, the Regulations of this Annex apply to all ships carrying harmful substances in packaged forms, or in freight containers, portable tanks or road and rail tank wagons.
- (2) Such carriage of harmful substances is prohibited except in accordance with the provisions of this Annex.
- (3) To supplement the provisions of this Annex the Government of each Party to the Convention shall issue, or cause to be issued, detailed requirements on packaging, marking and labelling, documentation, stowage, quantity limitations, exceptions and notification, for preventing or minimizing pollution of the marine environment by harmful substances.
- (4) For the purpose of this Annex, empty receptacles, freight containers, portable tanks and road and rail tank wagons which have been used previously for the carriage of harmful substances shall themselves be treated as harmful substances unless adequate precautions have been taken to ensure that they contain no residue that is hazardous to the marine environment.

Regulation 2

Packaging

Packagings, freight containers, portable tanks and road and rail tank wagons shall be adequate to minimize the hazard to the marine environment having regard to their specific contents.

Regulation 3

Marking And Labelling

Packages, whether shipped individually or in units or in freight containers, freight containers, portable tanks or road and rail tank wagons containing a harmful substance, shall be durably marked with the correct technical name (trade names shall not be used as the correct technical name), and further marked with a distinctive label or stencil of label, indicating that the

contents are harmful. Such identification shall be supplemented where possible by any other means, for example by the use of the United Nations number.

Regulation 4
Documentation

- (1) In all documents relating to the carriage of harmful substances by sea where such substances are named, the correct technical name of the substances shall be used (trade names shall not be used).
- (2) The shipping documents supplied by the shipper shall include a certificate or declaration that the shipment offered for carriage is properly packed, marked and labeled and in proper condition for carriage to minimize the hazard to the marine environment.
- (3) Each ship carrying harmful substances shall have a special list or manifest setting forth the harmful substances on board and the location thereof. A detailed stowage plan which sets out the location of all harmful substances on board may be used in place of such special list or manifest. Copies of such documents shall also be retained on shore by the owner of the ship or his representative until the harmful substances are unloaded.
- (4) In a case where the ship carries a special list or manifest or a detailed stowage plan, required for the carriage of dangerous goods by the International Convention for the Safety of Life at Sea in force, the documents required for the purpose of this Annex may be combined with those for dangerous goods. Where documents are combined, a clear distinction shall be made between dangerous goods and other harmful substances.

Regulation 5
Stowage

Harmful substances shall be both properly stowed and secured so as to minimize the hazards to the marine environment without impairing the safety of ship and persons on board.

Regulation 6
Quality Limitations

Certain harmful substances which are very hazardous to the marine environment may, for sound scientific and technical reasons, need to be prohibited for carriage or be limited as to the quantity which may be carried aboard any one ship. In limiting the quantity due consideration shall be given to size, construction and equipment of the ship as well as the packaging and the inherent nature of the substance.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

Regulation 7
Exceptions

- (1) Discharge by jettisoning of harmful substances carried in packaged forms, freight containers, portable tanks or road and rail tank wagons shall be prohibited except where necessary for the purpose of securing the safety of the ship or saving life at sea.
- (2) Subject to the provisions of the present Convention, appropriate measures based on the physical, chemical and biological properties of harmful substances shall be taken to regulate the washing of leakages overboard provided that compliance with such measures would not impair the safety of the ship and persons on board.

Regulation 8
Notification

With respect to certain harmful substances, as may be designated by the Government of a Party to the Convention, the master or owner of the ship or his representative shall notify the appropriate port authority of the intent to load or unload such substances at least 24 hours prior to such action.

ANNEX IV

**REGULATIONS FOR THE PREVENTION OF POLLUTION BY SEWAGE FROM
SHIPS**

Regulation 1
Definitions

For the purposes of the present Annex:

- (1) "New ship" means a ship:
 - (a) For which the building contract is placed, or in the absence of a building contract, the keel of which is laid, or which is at a similar stage of construction, on or after the date of entry into force of this Annex; or
 - (b) The delivery of which is three years or more after the date of entry into force of this Annex.
- (2) "Existing ship" means a ship which is not a new ship.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (3) "Sewage" means:
- (a) Drainage and other wastes from any form of toilets, urinals, and WC scuppers;
 - (b) Drainage from medical premises (dispensary, sick bay, etc.) via wash basins, wash tubs and scuppers located in such premises;
 - (c) Drainage from spaces containing living animals; or
 - (d) Other waste waters when mixed with the drainages defined above.
- (4) "Holding tank" means a tank used for the collection and storage of sewage.
- (5) "Nearest land". The term "from the nearest land" means from the baseline from which the territorial sea of the territory in question is established in accordance with international law except that, for the purposes of the present Convention "from the nearest land" off the north eastern coast of Australia shall mean from a line drawn from a point on the coast of Australia in,
- Latitude 11°00' South, longitude 142°08' East to a point in latitude 10°35' South,
Longitude 141°55' East—thence to a point latitude 10°00' South,
Longitude 142°00' East, thence to a point latitude 9°10' South,
Longitude 143°52' East, thence to a point latitude 9°00' South,
Longitude 144°30' East, thence to a point latitude 13°00' South,
Longitude 144°00' East, thence to a point latitude 15°00' South,
Longitude 146°00' East, thence to a point latitude 18°00' South,
Longitude 147°00' East, thence to a point latitude 21°00' South,
Longitude 153°00' East, thence to a point on the coast of Australia in latitude 24°42'
South, longitude 153°15' East.

Regulation 2
Application

The provisions of this Annex shall apply to:

- (a) (i) New ships of 200 tons gross tonnage and above;
- (ii) New ships of less than 200 tons gross tonnage which are certified to carry more than 10 persons;

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (iii) New ships which do not have a measured gross tonnage and are certified to carry more than 10 persons; and
- (b) (i) Existing ships of 200 tons gross tonnage and above, 10 years after the date of entry into force of this Annex;
- (ii) Existing ships of less than 200 tons gross tonnage which are certified to carry more than 10 persons, 10 years after the date of entry into force of this Annex; and
- (iii) Existing ships which do not have a measured gross tonnage and are certified to carry more than 10 persons, 10 years after the date of entry into force of this Annex.

Regulation 3
Surveys

- (1) Every ship which is required to comply with the provisions of this Annex and which is engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to the Convention shall be subject to the surveys specified below:
 - (a) An initial survey before the ship is put in service or before the Certificate required under Regulation 4 of this Annex is issued for the first time, which shall include a survey of the ship which shall be such as to ensure:
 - (i) When the ship is equipped with a sewage treatment plant the plant shall meet operational requirements based on standards and the test methods developed by the Organization;
 - (ii) When the ship is fitted with a system to comminute and disinfect the sewage, such a system shall be of a type approved by the Administration;
 - (iii) When the ship is equipped with a holding tank the capacity of such tank shall be to the satisfaction of the Administration for the retention of all sewage having regard to the operation of the ship, the number of persons on board and other relevant factors. The holding tank shall have a means to indicate visually the amount of its contents; and
 - (iv) That the ship is equipped with a pipeline leading to the exterior convenient for the discharge of sewage to a reception facility and that such a pipeline is fitted with a standard shore connection in compliance with Regulation 11 of this Annex.

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

This survey shall be such as to ensure that the equipment, fittings, arrangements and material fully comply with the applicable requirements of this Annex.

- (b) Periodical surveys at intervals specified by the Administration but not exceeding five years which shall be such as to ensure that the equipment, fittings, arrangements and material fully comply with the applicable requirements of this Annex. However, where the duration of the International Sewage Pollution Prevention Certificate (1973) is extended as specified in Regulation 7(2) or (4) of this Annex, the interval of the periodical survey may be extended correspondingly.
- (2) The Administration shall establish appropriate measures for ships which are not subject to the provisions of paragraph (1) of this Regulation in order to ensure that the provisions of this Annex are complied with.
- (3) Surveys of the ship as regards enforcement of the provisions of this Annex shall be carried out by officers of the Administration. The Administration may, however, entrust the surveys either to surveyors nominated for the purpose or to organizations recognized by it. In every case the Administration concerned fully guarantees the completeness and efficiency of the surveys.
- (4) After any survey of the ship under this Regulation has been completed, no significant change shall be made in the equipment, fittings, arrangements, or material covered by the survey without the approval of the Administration, except the direct replacement of such equipment or fittings.

Regulation 4
Issue of Certificate

- (1) An International Sewage Pollution Prevention Certificate (1973) shall be issued, after survey in accordance with the provisions of Regulation 3 of this Annex, to any ship which is engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to the Convention.
- (2) Such Certificate shall be issued either by the Administration or by any persons or organization duly authorized by it. In every case the Administration assumes full responsibility for the Certificate.

Regulation 5

Issue of a Certificate by another Government

- (1) The Government of a Party to the Convention may, at the request of the Administration, cause a ship to be surveyed and, if satisfied that the provisions of this Annex are complied with, shall issue or authorize the issue of an International Sewage Pollution Prevention Certificate (1973) to the ship in accordance with this Annex.
- (2) A copy of the Certificate and a copy of the survey report shall be transmitted as early as possible to the Administration requesting the survey.
- (3) A Certificate so issued shall contain a statement to the effect that it has been issued at the request of the Administration and it shall have the same force and receive the same recognition as the Certificate issued under Regulation 4 of this Annex.
- (4) No International Sewage Pollution Prevention Certificate (1973) shall be issued to a ship which is entitled to fly the flag of a State, which is not a Party.

Regulation 6

Form of Certificate

The International Sewage Pollution Prevention Certificate (1973) shall be drawn up in an official language of the issuing country in the form corresponding to the model given in the Appendix to this Annex. If the language used is neither English nor French, the text shall include a translation into one of these languages.

Regulation 7

Duration of Certificate

- (1) An International Sewage Pollution Prevention Certificate (1973) shall be issued for a period specified by the Administration, which shall not exceed five years from the date of issue, except as provided in paragraphs (2), (3) and (4) of this Regulation.
- (2) If a ship at the time when the Certificate expires is not in a port or offshore terminal under the jurisdiction of the Party to the Convention whose flag the ship is entitled to fly, the Certificate may be extended by the Administration, but such extension shall be granted only for the purpose of allowing the ship to complete its voyage to the State whose flag the ship is entitled to fly or in which it is to be surveyed and then only in cases where it appears proper and reasonable to do so.
- (3) No Certificate shall be thus extended for a period longer than five months and a ship to which such extension is granted shall not on its arrival in the State whose flag it is entitled

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

to fly or the port in which it is to be surveyed, be entitled by virtue of such extension to leave that port or State without having obtained a new Certificate.

- (4) A Certificate which has not been extended under the provisions of paragraph (2) of this Regulation may be extended by the Administration for a period of grace of up to one month from the date of expiry stated on it.
- (5) A Certificate shall cease to be valid if significant alterations have taken place in the equipment, fittings, arrangement or material required without the approval of the Administration, except the direct replacement of such equipment or fittings.
- (6) A Certificate issued to a ship shall cease to be valid upon transfer of such a ship to the flag of another State, except as provided in paragraph (7) of this Regulation.
- (7) Upon transfer of a ship to the flag of another Party, the Certificate shall remain in force for a period not exceeding five months provided that it would not have expired before the end of that period, or until the Administration issues a replacement Certificate, whichever is earlier. As soon as possible after the transfer has taken place the Government of the Party whose flag the ship was formerly entitled to fly shall transmit to the Administration a copy of the Certificate carried by the ship before the transfer and, if available, a copy of the relevant survey report.

Regulation 8
Discharge of Sewage

- (1) Subject to the provisions of Regulation 9 of this Annex, the discharge of sewage into the sea is prohibited, except when:
 - (a) The ship is discharging comminuted and disinfected sewage using a system approved by the Administration in accordance with Regulation 3(1)(a) at a distance of more than four nautical miles from the nearest land, or sewage which is not comminuted or disinfected at a distance of more than 12 nautical miles from the nearest land, provided that in any case, the sewage that has been stored in holding tanks shall not be discharged instantaneously but at a moderate rate when the ship is en route and proceeding at not less than 4 knots; the rate of discharge shall be approved by the Administration based upon standards developed by the Organization; or
 - (b) The ship has in operation an approved sewage treatment plant which has been certified by the Administration to meet the operational requirements referred to in Regulation 3(1)(a)(i) of this Annex, and

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (i) The test results of the plant are laid down in the ship's International Sewage Pollution Prevention Certificate (1973);
 - (ii) Additionally, the effluent shall not produce visible floating solids in, nor cause discolouration of, the surrounding water; or
 - (c) The ship is situated in the waters under the jurisdiction of a State and is discharging sewage in accordance with such less stringent requirements as may be imposed by such State.
- (2) When the sewage is mixed with wastes or waste water having different discharge requirements, the more stringent requirements shall apply.

Regulation 9

Exceptions

Regulation 8 of this Annex shall not apply to:

- (a) The discharge of sewage from a ship necessary for the purpose of securing the safety of a ship and those on board or saving life at sea; or
- (b) The discharge of sewage resulting from damage to a ship or its equipment if all reasonable precautions have been taken before and after the occurrence of the damage, for the purpose of preventing or minimizing the discharge.

Regulation 10

Reception Facilities

- (1) The Government of each Party to the Convention undertakes to ensure the provision of facilities at ports and terminals for the reception of sewage, without causing undue delay to ships, adequate to meet the needs of the ships using them.
- (2) The Government of each Party shall notify the Organization for transmission to the Contracting Governments concerned of all cases where the facilities provided under this Regulation are alleged to be inadequate.

BRUNEI DARUSSALAM TREATY SERIES

Protocol of 1978 relating to the International Convention For the Prevention of Pollution From Ships 1973

Regulation 11
Standard Discharge Connections

To enable pipes of reception facilities to be connected with the ship's discharge pipe line, both lines shall be fitted with a standard discharge connection in accordance with the following table:

<i>Standard dimensions of flanges for discharge connections</i>	
<i>Description</i>	<i>Dimension</i>
Outside diameter	210 mm
Inner diameter	According to pipe outside diameter
Bolt circle diameter	170 mm
Slots in flange	4 holes 18 mm in diameter equidistantly placed on a bolt circle of the above diameter, slotted to the flange periphery. The slot width to be 18 mm
Flange thickness	16 mm
Bolts and nuts: quantity and diameter	4, each of 16 mm in diameter and of suitable length
The flange is designed to accept pipes up to a maximum internal diameter of 100 mm and shall be of steel or other equivalent material having a flat face. This flange, together with a suitable gasket, shall be suitable for a service pressure of 6 kg/cm ² .	
For ships having a moulded depth of 5 metres and less, the inner diameter of the discharge connection may be 38 millimetres.	

APPENDIX FORM OF CERTIFICATE

(Access via <http://treaties.un.org/doc/Publication/UNTS/Volume%201340/volume-1340-I-22484-English.pdf>)

ANNEX V

REGULATIONS FOR THE PREVENTION OF POLLUTION BY GARBAGE FROM SHIPS

Regulation 1
Definitions

For the purposes of this Annex:

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (1) "Garbage" means all kinds of victual, domestic and operational waste excluding fresh fish and parts thereof, generated during the normal operation of the ship and liable to be disposed of continuously or periodically except those substances which are defined or listed in other Annexes to the present Convention.
- (2) "Nearest land". The term "from the nearest land" means from the baseline from which the territorial sea of the territory in question is established in accordance with international law except that, for the purposes of the present Convention "from the nearest land" off the north eastern coast of Australia shall mean from a line drawn from a point on the coast of Australia in,

Latitude 11°00' South, longitude 142°08' East to a point in latitude 10°35' South,
Longitude 141°55' East, thence to a point latitude 10°00' South,
Longitude 142°00' East, thence to a point latitude 9°10' South,
Longitude 143°52' East, thence to a point latitude 9°00' South,
Longitude 144°30' East, thence to a point latitude 13°00' South,
Longitude 144°00' East, thence to a point latitude 15°00' South,
Longitude 146°00' East, thence to a point latitude 18°00' South,
Longitude 147°00' East, thence to a point latitude 21°00' South,
Longitude 153°00' East, thence to a point on the coast of Australia in latitude 24°42'
South, longitude 153°15' East.

- (3) "Special area" means a sea area where for recognized technical reasons in relation to its oceanographical and ecological condition and to the particular character of its traffic the adoption of special mandatory methods for the prevention of sea pollution by garbage is required. Special areas shall include those listed in Regulation 5 of this Annex.

Regulation 2
Application

The provisions of this Annex shall apply to all ships.

Regulation 3
Disposal of Garbage outside Special Areas

- (1) Subject to the provisions of Regulations 4, 5 and 6 of this Annex:
- (a) The disposal into the sea of all plastics, including but not limited to synthetic ropes, synthetic fishing nets and plastic garbage bags is prohibited;

- (b) The disposal into the sea of the following garbage shall be made as far as practicable from the nearest land but in any case is prohibited if the distance from the nearest land is less than:
- (i) 25 nautical miles for dunnage, lining and packing materials which will float;
 - (ii) 12 nautical miles for food wastes and all other garbage including paper products, rags, glass, metal, bottles, crockery and similar refuse;
- (c) Disposal into the sea of garbage specified in sub-paragraph (b)(ii) of this Regulation may be permitted when it has passed through a comminuter or grinder and made as far as practicable from the nearest land but in any case is prohibited if the distance from the nearest land is less than 3 nautical miles. Such comminuted or ground garbage shall be capable of passing through a screen with openings no greater than 25 millimetres.
- (2) When the garbage is mixed with other discharges having different disposal or discharge requirements the more stringent requirements shall apply.

Regulation 4

Special Requirements for Disposal of Garbage

- (1) Subject to the provisions of paragraph (2) of this Regulation, the disposal of any materials regulated by this Annex is prohibited from fixed or floating platforms engaged in the exploration, exploitation and associated offshore processing of seabed mineral resources, and from all other ships when alongside or within 500 metres of such platforms.
- (2) The disposal into the sea of food wastes may be permitted when they have been passed through a comminuter or grinder from such fixed or floating platforms located more than 12 nautical miles from land and all other ships when alongside or within 500 metres of such platforms. Such comminuted or ground food wastes shall be capable of passing through a screen with openings no greater than 25 millimetres.

Regulation 5

Disposal of Garbage within Special Areas

- (1) For the purposes of this Annex the special areas are the Mediterranean Sea area, the Baltic Sea area, the Black Sea area, the Red Sea area and the "Gulfs area" which are defined as follows:

BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

- (a) The Mediterranean Sea area means the Mediterranean Sea proper including the gulfs and seas therein with the boundary between the Mediterranean and the Black Sea constituted by the 41° N parallel and bounded to the west by the Straits of Gibraltar at the meridian of 5°36' W.
 - (b) The Baltic Sea area means the Baltic Sea proper with the Gulf of Bothnia and the Gulf of Finland and the entrance to the Baltic Sea bounded by the parallel of the Skaw in the Skagerrak at 57°44.8' N.
 - (c) The Black Sea area means the Black Sea proper with the boundary between the Mediterranean and the Black Sea constituted by the parallel 41° N.
 - (d) The Red Sea area means the Red Sea proper including the Gulfs of Suez and Aqaba bounded at the south by the rhumb line between Ras si Ane (12°8.5' N, 43°19.6' E) and Husn Murad (12°40.4' N, 43°30.2' E).
 - (e) The "Gulfs area" means the sea area located north west of the rhumb line between Ras al Hadd (22°30' N, 59°48' E) and Ras al Fasteh (25°04' N, 61°25' E).
- (2) Subject to the provisions of Regulation 6 of this Annex:
- (a) Disposal into the sea of the following is prohibited:
 - (i) All plastics, including but not limited to synthetic ropes, synthetic fishing nets and plastic garbage bags; and
 - (ii) All other garbage, including paper products, rags, glass, metal, bottles, crockery, dunnage, lining and packing materials;
 - (b) Disposal into the sea of food wastes shall be made as far as practicable from land, but in any case not less than 12 nautical miles from the nearest land.
- (3) When the garbage is mixed with other discharges having different disposal or discharge requirements the more stringent requirements shall apply.
- (4) Reception facilities within special areas:
- (a) The Government of each Party to the Convention, the coastline of which borders a special area undertakes to ensure that as soon as possible in all ports within a special
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BRUNEI DARUSSALAM TREATY SERIES

*Protocol of 1978 relating to the International Convention For the Prevention of Pollution
From Ships 1973*

area, adequate reception facilities are provided in accordance with Regulation 7 of this Annex, taking into account the special needs of ships operating in these areas.

- (b) The Government of each Party concerned shall notify the Organization of the measures taken pursuant to sub-paragraph (a) of this Regulation. Upon receipt of sufficient notifications the Organization shall establish a date from which the requirements of this Regulation in respect of the area in question shall take effect. The Organization shall notify all Parties of the date so established no less than twelve months in advance of that date.
- (c) After the date so established, ships calling also at ports in these special areas where such facilities are not yet available, shall fully comply with the requirements of this Regulation.

Regulation 6
Exceptions

Regulations 3, 4 and 5 of this Annex shall not apply to:

- (a) The disposal of garbage from a ship necessary for the purpose of securing the safety of a ship and those on board or saving life at sea; or
- (b) The escape of garbage resulting from damage to a ship or its equipment provided all reasonable precautions have been taken before and after the occurrence of the damage, for the purpose of preventing or minimizing the escape; or
- (c) The accidental loss of synthetic fishing nets or synthetic material incidental to the repair of such nets, provided that all reasonable precautions have been taken to prevent such loss.

Regulation 7
Reception Facilities

- (1) The Government of each Party to the Convention undertakes to ensure the provision of facilities at ports and terminals for the reception of garbage, without causing undue delay to ships, and according to the needs of the ships using them.
- (2) The Government of each Party shall notify the Organization for transmission to the Parties concerned of all cases where the facilities provided under this Regulation are alleged to be inadequate.

**REGIONAL COOPERATION AGREEMENT ON COMBATING PIRACY AND
ARMED ROBBERY AGAINST SHIPS IN ASIA
("ReCAAP")**

Date and Place of Adoption of the Agreement	:	11 th November 2004, Tokyo
Date of Entry into Force of the Agreement	:	4 th September 2006
Date of Ratification by Brunei Darussalam	:	28 th October 2006
Date of Entry into Force for Brunei Darussalam	:	27 th November 2006
Reservations / Declarations	:	None
Applicable Legislation as of 19 th January 2013	:	
		<ul style="list-style-type: none">i. Maritime Offences (Ships and Platforms) Order, 2007ii. Penal Code (CAP. 22)iii. Mutual Assistance in Criminal Matters Order, 2004iv. Extradition Order, 2006

Executive Summary:

This Agreement is the first regional government to government agreement in Asia to foster cooperation amongst member states to combat against piracy and armed robbery at sea in the Asian region. This is aimed at through the reporting of information by member states on any piracy and armed robbery at sea related activities, providing mutual assistance to each other in the investigation and prosecution of these related offences, seizing of ships involved in piracy and armed robbery at sea and to rescue victims of piracy and armed robbery at sea.

This Agreement also established the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP) Information Sharing Centre (ISC) which is based in Singapore. The ReCAAP ISC operationalises the obligations conferred upon them by the agreement, which includes managing the flow of information reported by member states and also conducting analyses of the information and compiling statistics to help foster a better understanding of the piracy and armed robbery at sea situation in Asia.

BRUNEI DARUSSALAM TREATY SERIES

*Regional Cooperation Agreement on Combating Piracy and Armed Robbery
against Ships in Asia*

Source of Text: http://www.mofa.go.jp/mofaj/gaiko/kaiyo/pdfs/kyotei_s.pdf

The Contracting Parties to this Agreement,

Concerned about the increasing number of incidents of piracy and armed robbery against ships in Asia,

Mindful of the complex nature of the problem of piracy and armed robbery against ships,

Recognizing the importance of safety of ships, including their crew, exercising the right of navigation provided for in the United Nations Convention on the Law of the Sea of 10 December 1982, hereinafter referred to as "the UNCLOS",

Reaffirming the duty of States to cooperate in the prevention and suppression of piracy under the UNCLOS,

Recalling "Tokyo Appeal" of March 2000, "Asia Anti-Piracy Challenges 2000" of April 2000 and "Tokyo Model Action Plan" of April 2000,

Noting the relevant resolutions adopted by the United Nations General Assembly and the relevant resolutions and recommendations adopted by the International Maritime Organization,

Conscious of the importance of international cooperation as well as the urgent need for greater regional cooperation and coordination of all States affected within Asia, to prevent and suppress piracy and armed robbery against ships effectively,

Convinced that information sharing and capacity building among the Contracting Parties will significantly contribute towards the prevention and suppression of piracy and armed robbery against ships in Asia,

Affirming that, to ensure greater effectiveness of this Agreement, it is indispensable for each Contracting Party to strengthen its measures aimed at preventing and suppressing piracy and armed robbery against ships,

Determined to promote further regional cooperation and to enhance the effectiveness of such cooperation,

Have agreed as follows:

PART I

INTRODUCTION

Article 1
Definitions

1. For the purpose of this Agreement, “piracy” means any of the following acts:
 - (a) any illegal act of violence of detention, or any act of depredation, committed for private ends by the crew or the passengers of a private ship or a private aircraft, and directed:
 - (i) on the high seas, against another ship, or against persons or property on board such ship;
 - (ii) against a ship, persons or property in a place outside the jurisdiction of any State;
 - (b) any act of inciting or of intentionally facilitating an act described in subparagraph (a) or (b).
2. For the purposes of this Agreement, “armed robbery against ships” means any of the following acts:
 - (a) any illegal act of violence or detention, or any act of depredation, committed for private ends and directed against a ship, or against persons or property on board such ship, in a place within a Contracting Party’s jurisdiction over such offences;
 - (b) any act of voluntary participation in the operation of a ship with knowledge of facts making it a ship for armed robbery against ship;
 - (c) any act of inciting or of intentionally facilitating an act described in subparagraph (a)

Article 2
General Provisions

1. The Contracting Parties shall, in accordance with their respective national laws and regulations and subject to their available resources or capabilities, implement this Agreement, including preventing and suppressing piracy and armed robbery against ships, to the fullest extent possible.
-

BRUNEI DARUSSALAM TREATY SERIES

*Regional Cooperation Agreement on Combating Piracy and Armed Robbery
against Ships in Asia*

2. Nothing in this Agreement shall affect the rights and obligations of any Contracting Party under the international agreements to which that Contracting Party is party including the UNCLOS, and the relevant rules of international law.
3. Nothing in this Agreement shall affect the immunities of warships and other government ships operated for non-commercial purposes,
4. Nothing in this Agreement, nor any act or activity carried out under this Agreement shall prejudice the position of any Contracting Party with regard to any dispute concerning territorial sovereignty or any issues related to the law of the sea,
5. Nothing in this Agreement entitles a Contracting Party to undertake in the territory of another Contracting Party the exercise of jurisdiction and performance of functions which are exclusively reserved for the authorities of that other Contracting Party by its national law.
6. In applying paragraph 1 of Article 1, each Contracting Party shall give due regard to the relevant provisions of the UNCLOS without prejudice to the rights of the third Parties.

Article 3
General Obligations

1. Each Contracting Party shall, in accordance with its national laws and regulations and applicable rules of international law, make every effort to take effective measures in respect of the following:
 - (a) to prevent and suppress piracy and armed robbery against ships;
 - (b) to arrest pirates or persons who have committed armed robbery against ships;
 - (c) to seize ships or aircraft used for committing piracy or armed robbery against ships, to seize ships taken by and under the control of pirates or persons who have committed armed robbery against ships, and to seize the property on board such ships; and
 - (d) to rescue victim ships and victims of piracy or armed robbery against ships.
2. Nothing in this Article shall prevent each Contracting Party from taking additional measures in respect of subparagraphs (a) to (d) above in its land territory.

PART II
INFORMATION SHARING CENTER

Article 4
Composition

1. An Information Sharing Centre, hereinafter referred to as "the Centre", is hereby established to promote close cooperation among the Contracting Parties in preventing and suppressing piracy and armed robbery against ships.
2. The Centre shall be located in Singapore.
3. The Centre shall be composed of the Governing Council and the Secretariat.
4. The Governing Council shall be composed of one representative from each Contracting Party. The Governing Council shall meet at least once every year in Singapore, unless otherwise decided by the Governing Council.
5. The Governing Council shall make policies concerning all the matters of the Centre and shall adopt its own rules of procedure, including the method of selecting its Chairperson.
6. The Governing Council shall take its decisions by consensus.
7. The Secretariat shall be headed by the Executive Director who shall be assisted by the staff. The Executive Director shall be chosen by the Governing Council.
8. The Executive Director shall be responsible for the administrative, operational and financial matters of the Centre in accordance with the policies as determined by the Governing Council and the provisions of this Agreement, and for such other matters as determined by the Governing Council.
9. The Executive Director shall represent the Centre. The Executive Director shall, with the approval of the Governing Council, make rules and regulations of the Secretariat.

Article 5
Headquarters Agreement

1. The Centre, as an international organization whose members are the Contracting Parties to this Agreement, shall enjoy such legal capacity, privileges and immunities in the Host state of the Centre as are necessary for the fulfillment of its functions.
2. The Executive Director and the staff of the Secretariat shall be accorded, in the Host state, such privileges and immunities as are necessary for the fulfillment of their functions.
3. The Centre shall enter into an agreement with the Host State on matters including those specified in paragraphs 1 and 2 of this Article.

Article 6
Financing

1. The expenses of the Centre, as provided for in the budget decided by the Governing Council, shall be provided by the following sources:
 - (a) Host State financing and support;
 - (b) Voluntary contributions from the Contracting Parties;
 - (c) Voluntary contributions from international organizations and other entities, in accordance with relevant criteria adopted by the Governing Council; and
 - (d) Any other voluntary contributions as may be agreed upon by the Governing Council.
2. Financial matters of the Centre shall be governed by a Financial Regulation to be adopted by the Governing Council.
3. There shall be an annual audit of the accounts of the Centre by an independent auditor appointed by the Governing Council. The audit report shall be submitted to the Governing Council and shall be made public, in accordance with the Financial Regulation.

Article 7
Functions

The functions of the Centre shall be:

BRUNEI DARUSSALAM TREATY SERIES

*Regional Cooperation Agreement on Combating Piracy and Armed Robbery
against Ships in Asia*

- (a) to manage and maintain the expeditious flow of information relating to incidents of piracy and armed robbery against ships among the Contracting Parties;
- (b) to collect, collate and analyze the information transmitted by the Contracting Parties concerning piracy and armed robbery against ships, including other relevant information, if any, relating to Individuals and transnational organized criminal groups committing acts of piracy and armed robbery against ships;
- (c) to prepare statistics and reports on the basis of the information gathered and analyzed under subparagraph (b), and to disseminate them to the Contracting Parties;
- (d) to provide an appropriate alert, whenever possible, to the Contracting Parties if there is a reasonable ground to believe that a threat of incidents of piracy or armed robbery against ships is imminent;
- (e) to circulate requests referred to in Article 10 and relevant information on the measures taken referred to in Article 11 among the Contracting Parties;
- (f) to prepare non-classified statistics and reports based on information gathered and analyzed under subparagraph (b) and to disseminate them to the shipping community and the International Maritime Organization; and
- (g) to perform such other functions as may be agreed upon by the Governing Council with a view to preventing and suppressing piracy and armed robbery against ships.

Article 8
Operation

1. The daily operation of the Centre shall be undertaken by the Secretariat.
2. In carrying out its functions, the Centre shall respect the confidentiality of information provided by any Contracting Party, and shall not release or disseminate such information unless the consent of that Contracting Party is given in advance.
3. The Centre shall be operated in an effective and transparent manner, in accordance with the policies made by the Governing Council, and shall avoid duplication of existing activities between the Contracting Parties.

PART III
COOPERATION THROUGH THE INFORMATION SHARING CENTER

Article 9
Information Sharing

1. Each Contracting Party shall designate a focal point responsible for its communication with the Centre, and shall declare its designation of such focal point at the time of its signature or its deposit of an instrument of notification provided for in Article 18.
2. Each Contracting Party shall, upon the request of the Centre, respect the confidentiality of information transmitted from the Centre.
3. Each Contracting Party shall ensure the smooth and effective communication between its designated focal point, and other competent national authorities including rescue coordination centres, as well as relevant non-governmental organizations.
4. Each Contracting Party shall make every effort to require its ships, ship owners, or ship operators to promptly notify relevant national authorities including focal points, and the Centre when appropriate, of incidents of piracy or armed robbery against ships.
5. Any Contracting Party which has received or obtained information about an imminent threat of, or an incident of, piracy or armed robbery against ships shall promptly notify relevant information to the Centre through its designated focal point.
6. In the event that a Contracting Party receives an alert from the Centre as to an imminent threat of piracy or armed robbery against ships pursuant to subparagraph (d) of Article 7, that Contracting Party shall promptly disseminate the alert to ships within the area of such an imminent threat.

Article 10
Request For Cooperation

1. A Contracting Party may request any other Contracting Party, through the Centre or directly, to cooperate in detecting any of the following persons, ships, or aircraft:
 - (a) pirates;
 - (b) persons who have committed armed robbery against ships;

BRUNEI DARUSSALAM TREATY SERIES

*Regional Cooperation Agreement on Combating Piracy and Armed Robbery
against Ships in Asia*

- (c) ships or aircraft used for committing piracy or armed robbery against ships, and ships taken by and under the control of pirates or persons who have committed armed robbery against ships; or
 - (d) victim ships and victims of piracy or armed robbery against ships.
2. A Contracting Party may request any other Contracting Party, through the Centre or directly, to take appropriate measures, including arrest or seizure, against any of the persons or ships mentioned in subparagraph (a), (b), or (c) of paragraph 1 of this Article, within the limits permitted by its national laws and regulations and applicable rules of international law.
 3. Contracting Party may also request any other Contracting Party, through the Centre or directly, to take effective measures to rescue the victim ships and the victims of piracy or armed robbery against ships.
 4. The Contracting Party which has made a direct request for cooperation pursuant to paragraphs 1, 2 and 3 of this Article shall promptly notify the Centre of such request
 5. Any request by a Contracting Party for cooperation involving extradition or mutual legal assistance in criminal matters shall be made directly to any other Contracting Party.

Article 11

Cooperation by The Requested Contracting Party

1. A Contracting Party, which has received a request pursuant to Article 10, shall, subject to paragraph 1 of Article 2, make every effort to take effective and practical measures for implementing such request.
2. A Contracting Party, which has received a request pursuant to Article 10, may seek additional information from the requesting Contracting Party for the implementation of such request.
3. A Contracting Party, which has taken measures referred to in paragraph 1 of this Article, shall promptly notify the Centre of the relevant information on the measures taken.

**PART IV
COOPERATION**

**Article 12
Extradition**

A Contracting Party shall, subject to its national laws and regulations, endeavor to extradite pirates or persons who have committed armed robbery against ships, and who are present in its territory, to the other Contracting Party which has jurisdiction over them, at the request of that Contracting Party.

**Article 13
Mutual Legal Assistance**

A Contracting Party shall, subject to its national laws and regulations, endeavor to render mutual legal assistance in criminal matters, including the submission of evidence related to piracy and armed robbery against ships, at the request of another Contracting Party.

**Article 14
Capacity Building**

1. For the purpose of enhancing the capacity of the Contracting Parties to prevent and suppress piracy and armed robbery against ships, each Contracting Party shall endeavor to cooperate to the fullest possible extent with other Contracting Parties which request cooperation or assistance.
2. The Centre shall endeavor to cooperate to the fullest possible extent in providing capacity building assistance.
3. Such capacity building cooperation may include technical assistance such as educational and training programs to share experiences and best practices.

**Article 15
Cooperative Arrangements**

Cooperative arrangements such as joint exercises or other forms of cooperation, as appropriate, may be agreed upon among the Contracting Parties concerned.

Article 16
Protection Measures for Ships

Each Contracting Party shall encourage ships, ship owners, or ship operators, where appropriate, to take protective measures against piracy and armed robbery against ships, taking into account the relevant international standards and practices, in particular, recommendations adopted by the International Maritime Organization.

PART V
FINAL PROVISIONS

Article 17
Settlement of Disputes

Disputes arising out of the interpretation or application of this Agreement, including those relating to liability for any loss or damage caused by the request made under paragraph 2 of Article 10 or any measure taken under paragraph 1 of Article 11, shall be settled amicably by the Contracting Parties concerned through negotiations in accordance with applicable rules of international law.

Article 18
Signature and Entry Into Force

1. This Agreement shall be open for signature at the depositary referred to in paragraph 2 below by the People's Republic of Bangladesh, Brunei Darussalam, the Kingdom of Cambodia, the People's Republic of China, the Republic of India, the Republic of Indonesia, Japan, the Republic of Korea, the Lao People's Democratic Republic, Malaysia, the Union of Myanmar, the Republic of the Philippines, the Republic of Singapore, the Democratic Socialist Republic of Sri Lanka, the Kingdom of Thailand, the Socialist Republic of Viet Nam.
2. The Government of Singapore is the depositary of this Agreement.
3. This Agreement shall enter into force 90 days after the date on which the tenth instrument of notification by a State listed in paragraph 1, indicating the completion of its domestic requirements, is submitted to the depositary. Subsequently it shall enter into force in respect of any other State listed in paragraph 1 above 30 days after its deposit of an instrument of notification to the depositary.

BRUNEI DARUSSALAM TREATY SERIES

*Regional Cooperation Agreement on Combating Piracy and Armed Robbery
against Ships in Asia*

4. The depositary shall notify all the States listed in paragraph 1 of the entry into force of this Agreement pursuant to paragraph 3 of this Article.
5. After this Agreement has entered into force, it shall be open for accession by any State not listed in paragraph 1. Any State desiring to accede to this Agreement may so notify the depositary, which shall promptly circulate the receipt of such notification to all other Contracting Parties. In the absence of a written objection by a Contracting Party within 90 days of the receipt of such notification by the depositary, that State may deposit an instrument of accession with the depositary, and become a party to this Agreement 60 days after such deposit of instrument of accession.

Article 19
Amendment

1. Any Contracting Party may propose an amendment to this Agreement, any time after the Agreement enters into force. Such amendment shall be adopted with the consent of all Contracting Parties.
2. Any amendment shall enter into force 90 days after the acceptance by all Contracting Parties. The instruments of acceptance shall be deposited with the depositary, which shall promptly notify all other Contracting Parties of the deposit of such instruments.

Article 20
Withdrawal

1. Any Contracting Party may withdraw from this Agreement at any time after the date of its entry into force.
2. The withdrawal shall be notified by an instrument of withdrawal to the depositary.
3. The withdrawal shall take effect 180 days after the receipt of the instrument of withdrawal by the depositary.
4. The depositary shall promptly notify all other Contracting Parties of any withdrawal.

Article 21
Authentic Text

This Agreement shall be authentic in the English language.

BRUNEI DARUSSALAM TREATY SERIES

*Regional Cooperation Agreement on Combating Piracy and Armed Robbery
against Ships in Asia*

Article 22
Registration

This Agreement shall be registered by the depositary pursuant to Article 102 of the Charter of the United Nations.

IN WITNESS WHEREOF, the undersigned, being duly authorized thereto by their respective Governments, have signed this Agreement.

**INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA
("SOLAS CONVENTION")**

Date and Place of Adoption of the Convention	:	1 st November 1974, London
Date of Entry into Force of the Convention	:	25 th May 1980
Date of Accession by Brunei Darussalam	:	23 rd October 1986
Date of Entry into Force for Brunei Darussalam	:	23 rd January 1987
Reservations / Declarations	:	None
Applicable Legislation as of 19 th January 2013	:	
		<ul style="list-style-type: none">i. Merchant Shipping Order, 2002ii. Merchant Shipping (Safety Convention) Regulations, 2003

Executive Summary:

This Convention provides for the minimum standards for member states to adopt for the overall purpose of protecting the safety of merchant ships. This includes for flag states ensuring that ships flying their flag comply with certain requirements under the Convention and produce a number of prescribed certificates as proof of such compliance. The Convention also gives the authority to member states to inspect ships of other member states to ensure they are in compliance with the requirements of the Convention. The minimum standards prescribed under the Convention concerns matters that include the construction of the ship, the provision of life-saving equipment and the safety of navigation.

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

Source of Text: <http://treaties.un.org/doc/Publication/UNTS/Volume%201184/volume-1184-I-18961-English.pdf>

THE CONTRACTING GOVERNMENTS,

BEING DESIROUS of promoting safety of life at sea by establishing in common agreement uniform principles and rules directed thereto,

CONSIDERING that this end may best be achieved by the conclusion of a Convention to replace the International Convention for the Safety of Life at Sea, 1960, taking account of developments since that Convention was concluded,

HAVE AGREED as follows:

Article 1

General Obligations under the Convention

- (a) The Contracting Governments undertake to give effect to the provisions of the present Convention and the Annex thereto, which shall constitute an integral part of the present Convention. Every reference to the present Convention constitutes at the same time a reference to the Annex.
- (b) The Contracting Governments undertake to promulgate all laws, decrees, orders and regulations and to take all other steps which may be necessary to give the present Convention full and complete effect, so as to ensure that, from the point of view of safety of life, a ship is fit for the service for which it is intended.

Article 2

Application

The present Convention shall apply to ships entitled to fly the flag of States the Governments of which are Contracting Governments.

Article 3

Laws, Regulations

The Contracting Governments undertake to communicate to and deposit with the Secretary-General of the Inter-Governmental Maritime Consultative Organization (hereinafter referred to as "the Organization"):

- (a) a list of non-governmental agencies which are authorized to act in their behalf in the administration of measures for safety of life at sea for circulation to the Contracting Governments for the information of their officers;

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

- (b) the text of laws, decrees, orders and regulations which shall have been promulgated on the various matters within the scope of the present Convention;
- (c) a sufficient number of specimens of their Certificates issued under the provisions of the present Convention for circulation to the Contracting Governments for the information of their officers.

Article 4
Cases of *Force Majeure*

- (a) A ship, which is not subject to the provisions of the present Convention at the time of its departure on any voyage, shall not become subject to the provisions of the present Convention on account of any deviation from its intended voyage due to stress of weather or any other cause of *force majeure*.
- (b) Persons who are on board a ship by reason of *force majeure* or in consequence of the obligation laid upon the master to carry shipwrecked or other persons shall not be taken into account for the purpose of ascertaining the application to a ship of any provisions of the present Convention.

Article 5
Carriage of Persons in Emergency

- (a) For the purpose of evacuating persons in order to avoid a threat to the security of their lives a Contracting Government may permit the carriage of a larger number of persons in its ships than is otherwise permissible under the present Convention.
- (b) Such permission shall not deprive other Contracting Governments of any right of control under the present Convention over such ships which come within their ports.
- (c) Notice of any such permission, together with a statement of the circumstances, shall be sent to the Secretary-General of the Organization by the Contracting Government granting such permission.

Article 6
Prior Treaties and Conventions

- (a) As between the Contracting Governments, the present Convention replaces and abrogates the International Convention for the Safety of Life at Sea which was signed in London on 17 June 1960.

- (b) All other treaties, conventions and arrangements relating to safety of life at sea, or matters appertaining thereto, at present in force between Governments parties to the present Convention shall continue to have full and complete effect during the terms thereof as regards:
- (i) ships to which the present Convention does not apply;
 - (ii) ships to which the present Convention applies, in respect of matters for which it has not expressly provided.
- (c) To the extent, however, that such treaties, conventions or arrangements conflict with the provisions of the present Convention, the provisions of the present Convention shall prevail.
- (d) All matters which are not expressly provided for in the present Convention remain subject to the legislation of the Contracting Governments.

Article 7
Special Rules Drawn Up By Agreement

When in accordance with the present Convention special rules are drawn up by agreement between all or some of the Contracting Governments, such rules shall be communicated to the Secretary-General of the Organization for circulation to all Contracting Governments.

Article 8
Amendments

- (i) The present Convention may be amended by either of the procedures specified in the following paragraphs.
- (ii) Amendments after consideration within the Organization:
- (i) Any amendment proposed by a Contracting Government shall be submitted to the Secretary-General of the Organization, who shall then circulate it to all Members of the Organization and all Contracting Governments at least six months prior to its consideration.
 - (ii) Any amendment proposed and circulated as above shall be referred to the Maritime Safety Committee of the Organization for consideration.
 - (iii) Contracting Governments of States, whether or not Members of the Organization, shall be entitled to participate in the proceedings of the Maritime Safety Committee for the consideration and adoption of amendments.

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

- (iv) Amendments shall be adopted by a two-thirds majority of the Contracting Governments present and voting in the Maritime Safety Committee expanded as provided for in sub-paragraph (iii) of this paragraph (hereinafter referred to as "the expanded Maritime Safety Committee") on condition that at least one-third of the Contracting Governments shall be present at the time of voting.
 - (v) Amendments adopted in accordance with sub-paragraph (iv) of this paragraph shall be communicated by the Secretary-General of the Organization to all Contracting Governments for acceptance.
 - (vi) (1) An amendment to an Article of the Convention or to Chapter I of the Annex shall be communicated by the Secretary-General of the Organization to all contracting Governments.

(2) An amendment to the Annex other than Chapter I shall be deemed to have been accepted; at the end of two years from the date on which it is communicated to Contracting Governments for acceptance; or
 - (vii) At the end of a different period, which shall not be less than one year, if so determined at the time of its adoption by a two-thirds majority of the Contracting Governments present and voting in the expanded Maritime Safety Committee.
 - (viii) However, if within the specified period either more than one-third of Contracting Governments, or Contracting Governments the combined merchant fleets of which constitute not less than fifty per cent of the gross tonnage of the world's merchant fleet, notify the Secretary-General of the Organization that they object to the amendment, it shall be deemed not to have been accepted.
 - (ix) An amendment to an Article of the Convention or to Chapter I of the Annex shall enter into force with respect to those Contracting Governments which have accepted it, six months after the date on which it is deemed to have been accepted, and with respect to each Contracting Government which accepts it after that date, six months after the date of that Contracting Government's acceptance.
 - (x) An amendment to the Annex other than Chapter I shall enter into force with respect to all Contracting Governments, except those which have objected to the amendment under sub-paragraph (vi)(2) of this paragraph and which have not withdrawn such objections, six months after the date on which it is deemed to have been accepted. However, before the date set for entry into force, any Contracting Government may give notice to the Secretary-General of the Organization that it exempts itself from giving effect to that amendment for a period not longer than one year from the date of its entry into force, or for such longer period as may be determined by a two-thirds majority of the Contracting
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BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

Governments present and voting in the expanded Maritime Safety Committee at the time of the adoption of the amendment.

- (xi) Amendment by a Conference:
- (xii) Upon the request of a Contracting Government concurred in by at least one-third of the Contracting Governments, the Organization shall convene a Conference of Contracting Governments to consider amendments to the present Convention.
- (xiii) Every amendment adopted by such a Conference by a two-thirds majority of the Contracting Governments present and voting shall be communicated by the Secretary-General of the Organization to all Contracting Governments for acceptance.
- (xiv) Unless the Conference decides otherwise, the amendment shall be deemed to have been accepted and shall enter into force in accordance with the procedures specified in sub-paragraphs (b)(vi) and (b)(vii) respectively of this Article, provided that references in these paragraphs to the expanded Maritime Safety Committee shall be taken to mean references to the Conference.
- (xv) A Contracting Government which has accepted an amendment to the Annex which has entered into force shall not be obliged to extend the benefit of the present Convention in respect of the certificates issued to a ship entitled to fly the flag of a State the Government of which, pursuant to the provisions of sub-paragraph (b)(vi)(2) of this Article, has objected to the amendment and has not withdrawn such an objection, but only to the extent that such certificates relate to matters covered by the amendment in question.
- (xvi) A Contracting Government which has accepted an amendment to the Annex which has entered into force shall extend the benefit of the present Convention in respect of the certificates issued to a ship entitled to fly the flag of a State the Government of which, pursuant to the provisions of sub-paragraph (b)(vii)(2) of this Article, has notified the Secretary-General of the Organization that it exempts itself from giving effect to the amendment.
- (xvii) Unless expressly provided otherwise, any amendment to the present Convention made under this Article, which relates to the structure of a ship, shall apply only to ships the keels of which are laid or which are at a similar stage of construction, on or after the date on which the amendment enters into force.
- (xviii) Any declaration of acceptance of, or objection to, an amendment or any notice given under sub-paragraph (b)(vii)(2) of this Article shall be submitted in writing to the Secretary-General of the Organization, who shall inform all Contracting Governments of any such submission and the date of its receipt.

- (xix) The Secretary-General of the Organization shall inform all Contracting Governments of any amendments which enter into force under this Article, together with the date on which each such amendment enters into force.

Article 9

Signature, Ratification, Acceptance, Approval and Accession

- (a) The present Convention shall remain open for signature at the Headquarters of the Organization from 1 November 1974 until 1 July 1975 and shall thereafter remain open for accession. States may become parties to the present Convention by:
- (i) signature without reservation as to ratification, acceptance or approval; or
 - (ii) signature subject to ratification, acceptance or approval, followed by ratification, acceptance or approval; or
 - (iii) accession.
- (b) Ratification, acceptance, approval or accession shall be effected by the deposit of an instrument to that effect with the Secretary-General of the Organization.
- (c) The Secretary-General of the Organization shall inform the Governments of all States which have signed the present Convention or acceded to it of any signature or of the deposit of any instrument of ratification, acceptance, approval or accession and the date of its deposit.

Article 10

Entry into Force

- (a) The present Convention shall enter into force twelve months after the date on which not less than twenty-five States, the combined merchant fleets of which constitute not less than fifty per cent of the gross tonnage of the world's merchant shipping, have become parties to it in accordance with Article IX.
- (b) Any instrument of ratification, acceptance, approval or accession deposited after the date on which the present Convention enters into force shall take effect three months after the date of deposit.
- (c) After the date on which an amendment to the present Convention is deemed to have been accepted under Article VIII, any instrument of ratification, acceptance, approval or accession deposited shall apply to the Convention as amended.
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Article 11
Denunciation

- (a) The present Convention may be denounced by any Contracting Government at any time after the expiry of five years from the date on which the Convention enters into force for that Government.
- (b) Denunciation shall be effected by the deposit of an instrument of denunciation with the Secretary-General of the Organization who shall notify all the other Contracting Governments of any instrument of denunciation received and of the date of its receipt as well as the date on which such denunciation takes effect.
- (c) A denunciation shall take effect one year, or such longer period as may be specified in the instrument of denunciation, after its receipt by the Secretary-General of the Organization.

Article 12
Deposit and Registration

- (a) The present Convention shall be deposited with the Secretary-General of the Organization who shall transmit certified true copies thereof to the Governments of all States which have signed the present Convention or acceded to it.
- (b) As soon as the present Convention enters into force, the text shall be transmitted by the Secretary-General of the Organization to the Secretary-General of the United Nations for registration and publication, in accordance with Article 102 of the Charter of the United Nations.

Article 13
Languages

The present Convention is established in a single copy in the Chinese, English, French, Russian and Spanish languages, each text being equally authentic. Official translations in the Arabic, German and Italian languages shall be prepared and deposited with the signed original.

IN WITNESS WHEREOF the undersigned, being duly authorized by their respective Governments for that purpose, have signed the present Convention.

DONE at London this first day of November one thousand nine hundred and seventy-four.

**ANNEX
CHAPTER I GENERAL PROVISIONS**

**PART A
APPLICATION, DEFINITIONS, ETC.**

**Regulation 1
Application**

- (a) Unless expressly provided otherwise, the present Regulations apply only to ships engaged on international voyages.
- (b) The classes of ships to which each Chapter applies are more precisely defined, and the extent of the application is shown, in each Chapter.

**Regulation 2
Definitions**

For the purpose of the present Regulations, unless expressly provided otherwise:

- (a) "Regulations" means the Regulations contained in the Annex to the present Convention.
 - (b) "Administration" means the Government of the State whose flag the ship is entitled to fly.
 - (c) "Approved" means approved by the Administration.
 - (d) "International voyage" means a voyage from a country to which the present Convention applies to a port outside such country, or conversely.
 - (e) A passenger is every person other than:
 - (i) the master and the members of the crew or other persons employed or engaged in any capacity on board a ship on the business of that ship; and
 - (ii) a child under one year of age.
 - (f) A passenger ship is a ship which carries more than twelve passengers.
 - (g) A cargo ship is any ship which is not a passenger ship.
 - (h) A tanker is a cargo ship constructed or adapted for the carriage in bulk of liquid cargoes of an inflammable nature.
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BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

- (i) A fishing vessel is a vessel used for catching fish, whales, seals, walrus or other living resources of the sea.
- (j) A nuclear ship is a ship provided with a nuclear power plant.
- (k) "New ship" means a ship the keel of which is laid or which is at a similar stage of construction on or after the date of coming into force of the present Convention.
- (l) "Existing ship" means a ship which is not a new ship.
- (m) A mile is 1,852 metres or 6,080 feet.

Regulation 3
Exceptions

- (a) The present Regulations, unless expressly provided otherwise, do not apply to:
 - (i) Ships of war and troopships.
 - (ii) Cargo ships of less than 500 tons gross tonnage.
 - (iii) Ships not propelled by mechanical means.
 - (iv) Wooden ships of primitive build.
 - (v) Pleasure yachts not engaged in trade.
 - (vi) Fishing vessels
- (b) Except as expressly provided in Chapter V, nothing herein shall apply to ships solely navigating the Great Lakes of North America and the River St. Lawrence as far east as a straight line drawn from Cap des Rosiers to West Point, Anticosti Island and, on the north side of Anticosti Island, the 63rd Meridian.

Regulation 4
Exemptions

- (a) A ship which is not normally engaged on international voyages but which, in exceptional circumstances, is required to undertake a single international voyage may be exempted by the Administration from any of the requirements of the present Regulations provided that it complies with safety requirements which are adequate in the opinion of the Administration for the voyage which is to be undertaken by the ship.
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- (b) The Administration may exempt any ship which embodies features of a novel kind from any of the provisions of Chapters II-1, II-2, III and IV of these Regulations the application of which might seriously impede research into the development of such features and their incorporation in ships engaged on international voyages. Any such ship shall, however, comply with safety requirements which, in the opinion of that Administration, are adequate for the service for which it is intended and are such as to ensure the overall safety of the ship and which are acceptable to the Governments of the States to be visited by the ship. The Administration which allows any such exemption shall communicate to the Organization particulars of same and the reasons therefor which the Organization shall circulate to the Contracting Governments for their information.

Regulation 5
Equivalents

- (a) Where the present Regulations require that a particular fitting, material, appliance or apparatus, or type thereof, shall be fitted or carried in a ship, or that any particular provision shall be made, the Administration may allow any other fitting, material, appliance or apparatus, or type thereof, to be fitted or carried, or any other provision to be made in that ship, if it is satisfied by trial thereof or otherwise that such fitting, material, appliance or apparatus, or type thereof, or provision, is at least as effective as that required by the present Regulations.
- (b) Any Administration which so allows, in substitution, a fitting, material, appliance or apparatus, or type thereof, or provision, shall communicate to the Organization particulars thereof together with a report on any trials made and the Organization shall circulate such particulars to other Contracting Governments for the information of their officers.

PART B
SURVEYS AND CERTIFICATES

Regulation 6
Inspection and Survey

The inspection and survey of ships, so far as regards the enforcement of the provisions of the present Regulations and the granting of exemptions therefrom, shall be carried out by officers of the State whose flag the ship is entitled to fly, provided that the Government of each State may entrust the inspection and survey either to surveyors nominated for the purpose or to organizations recognized by it. In every case the Government concerned fully guarantees the completeness and efficiency of the inspection and survey.

Regulation 7
Surveys of Passenger Ships

- (a) A passenger ship shall be subjected to the surveys specified below:
- (i) A survey before the ship is put in service.
 - (ii) A periodical survey once every twelve months.
 - (iii) Additional surveys, as occasion arises.
- (b) The surveys referred to above shall be carried out as follows:
- (i) The survey before the ship is put in service shall include a complete inspection of its structure, machinery and equipment, including the outside of the ship's bottom and the inside and outside of the boilers. This survey shall be such as to ensure that the arrangements, material, and scantlings of the structure, boilers and other pressure vessels and their appurtenances, main and auxiliary machinery, electrical installation, radio installation, radiotelegraph installations in motor lifeboats, portable radio apparatus for survival craft, life-saving appliances, fire protection, fire detecting and extinguishing appliances, radar, echo-sounding device, gyro-compass, pilot ladders, mechanical pilot hoists and other equipment, fully comply with the requirements of the present Convention, and of the laws, decrees, orders and regulations promulgated as a result thereof by the Administration for ships of the service for which it is intended. The survey shall also be such as to ensure that the workmanship of all parts of the ship and its equipment is in all respects satisfactory, and that the ship is provided with the lights, shapes, means of making sound signals and distress signals as required by the provisions of the present Convention and the International Regulations for Preventing Collisions at Sea in force.
 - (ii) The periodical survey shall include an inspection of the structure, boilers and other pressure vessels, machinery and equipment, including the outside of the ship's bottom. The survey shall be such as to ensure that the ship, as regards the structure, boilers and other pressure vessels and their appurtenances, main and auxiliary machinery, electrical installation, radio installation, radiotelegraph installations in motor lifeboats, portable radio apparatus for survival craft, life-saving appliances, fire protection, fire detection and extinguishing appliances, radar, echo-sounding device, gyro-compass, pilot ladders, mechanical pilot hoists and other equipment, is in satisfactory condition and fit for the service for which it is intended, and that it complies with the requirements of the present Convention, and of the laws, decrees, orders and regulations promulgated as a result thereof by the Administration. The lights, shapes and means of making sound signals and the distress signals carried by the ship shall also be subject to the above-mentioned

survey for the purpose of ensuring that they comply with the requirements of the present Convention and of the International Regulations for Preventing Collisions at Sea in force.

- (iii) A survey either general or partial, according to the circumstances, shall be made every time an accident occurs or a defect is discovered which affects the safety of the ship or the efficiency or completeness of its life-saving appliances or other equipment, or whenever any important repairs or renewals are made. The survey shall be such as to ensure that the necessary repairs or renewals have been effectively made, that the material and workmanship of such repairs or renewals are in all respects satisfactory, and that the ship complies in all respects with the provisions of the present Convention and of the International Regulations for Preventing Collisions at Sea in force, and of the laws, decrees, orders and regulations promulgated as a result thereof by the Administration.
- (c)
- (i) The laws, decrees, orders and regulations referred to in paragraph (b) of this Regulation shall be in all respects such as to ensure that, from the point of view of safety of life, the ship is fit for the service for which it is intended.
- (ii) They shall among other things prescribe the requirements to be observed as to the initial and subsequent hydraulic or other acceptable alternative tests to which the main and auxiliary boilers, connexions, steam pipes, high pressure receivers, and fuel tanks for internal combustion engines are to be submitted including the test procedures to be followed and the intervals between two consecutive tests.

Regulation 8

Surveys of Life-saving Appliances and Other Equipment of Cargo Ships

The life-saving appliances, except a radiotelegraph installation in a motor lifeboat or a portable radio apparatus for survival craft, the echo-sounding device, the gyro-compass, and the fire-extinguishing appliances of cargo ships to which Chapters II-1, II-2, III and V apply shall be subject to initial and subsequent surveys as provided for passenger ships in Regulation 7 of this Chapter with the substitution of 24 months for 12 months in subparagraph (a)(ii) of that Regulation. The fire control plans in new ships and the pilot ladders, mechanical pilot hoists, lights, shapes and means of making sound signals carried by new and existing ships shall be included in the surveys for the purpose of ensuring that they comply fully with the requirements of the present Convention and, where applicable, the International Regulations for Preventing Collisions at Sea in force.

Regulation 9

Surveys of Radio and Radar Installations of Cargo Ships

The radio and radar installations of cargo ships to which Chapters IV and V apply and any radiotelegraph installation in a motor lifeboat or portable radio apparatus for survival craft

which is carried in compliance with the requirements of Chapter III shall be subject to initial and subsequent surveys as provided for passenger ships in Regulation 7 of this Chapter.

Regulation 10
Surveys of Hull, Machinery and Equipment of Cargo Ships

The hull, machinery and equipment (other than items in respect of which Cargo Ship Safety Equipment Certificates, Cargo Ship Safety Radiotelegraphy Certificates or Cargo Ship Safety Radiotelephony Certificates are issued) of a cargo ship shall be surveyed on completion and thereafter in such manner and at such intervals as the Administration may consider necessary in order to ensure that their condition is in all respects satisfactory. The survey shall be such as to ensure that the arrangements, material, and scantlings of the structure, boilers and other pressure vessels and their appurtenances, main and auxiliary machinery, electrical installations and other equipment are in all respects satisfactory for the service for which the ship is intended.

Regulation 11
Maintenance of Conditions After Survey

After any survey of the ship under Regulations 7, 8, 9 or 10 of this Chapter has been completed, no change shall be made in the structural arrangements, machinery, equipment, *etc.* covered by the survey, without the sanction of the Administration.

Regulation 12
Issue of Certificates

- (a)
- (i) A certificate called a Passenger Ship Safety Certificate shall be issued after inspection and survey to a passenger ship which complies with the requirements of Chapters II-1, II-2, III and IV and any other relevant requirements of the present Regulations.
 - (ii) A certificate called a Cargo Ship Safety Construction Certificate shall be issued after survey to a cargo ship which satisfies the requirements for cargo ships on survey set out in Regulation 10 of this Chapter and complies with the applicable requirements of Chapters II-1 and II-2 other than those relating to fire-extinguishing appliances and fire control plans.
 - (iii) A certificate called a Cargo Ship Safety Equipment Certificate shall be issued after inspection to a cargo ship which complies with the relevant requirements of Chapters II-1, II-2 and III and any other relevant requirements of the present Regulations.
 - (iv) A certificate called a Cargo Ship Safety Radiotelegraphy Certificate shall be issued after inspection to a cargo ship, fitted with a radio-telegraph installation,
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which complies with the requirements of Chapter IV and any other relevant requirements of the present Regulations.

- (v) A certificate called a Cargo Ship Safety Radiotelephony Certificate shall be issued after inspection to a cargo ship, fitted with a radio-telephone installation, which complies with the requirements of Chapter IV and any other relevant requirements of the present Regulations.
 - (vi) When an exemption is granted to a ship under and in accordance with the provisions of the present Regulations, a certificate called an Exemption Certificate shall be issued in addition to the certificates prescribed in this paragraph.
 - (vii) Passenger Ship Safety Certificates, Cargo Ship Safety Construction Certificates, Cargo Ship Safety Equipment Certificates, Cargo Ship Safety Radiotelegraphy Certificates, Cargo Ship Safety Radiotelephony Certificates and Exemption Certificates shall be issued either by the Administration or by any person or organization duly authorized by it. In every case, that Administration assumes full responsibility for the Certificate.
- (b) Notwithstanding any other provision of the present Convention any certificate issued under, and in accordance with, the provisions of the International Convention for the Safety of Life at Sea, 1960, which is current when the present Convention comes into force in respect of the Administration by which the certificate is issued, shall remain valid until it expires under the terms of Regulation 14 of Chapter I of that Convention.
- (c) A Contracting Government shall not issue certificates under, and in accordance with, the provisions of the International Convention for the Safety of Life at Sea, 1960, 1948 or 1929, after the date on which acceptance of the present Convention by the Government takes effect.

Regulation 13 **Issue of Certificate by Another Government**

A Contracting Government may, at the request of the Administration, cause a ship to be surveyed and, if satisfied that the requirements of the present Regulations are complied with, shall issue certificates to the ship in accordance with the present Regulations. Any certificate so issued must contain a statement to the effect that it has been issued at the request of the Government of the State whose flag the ship is or will be entitled to fly, and it shall have the same force and receive the same recognition as a certificate issued under Regulation 12 of this Chapter.

Regulation 14
Duration of Certificates

- (a) Certificates other than Cargo Ship Safety Construction Certificates, Cargo Ship Safety Equipment Certificates and Exemption Certificates shall be issued for a period of not more than 12 months. Cargo Ship Safety Equipment Certificates shall be issued for a period of not more than 24 months. Exemption Certificates shall not be valid for longer than the period of the certificates to which they refer.
- (b) If a survey takes place within two months before the end of the period for which a Cargo Ship Safety Radiotelegraphy Certificate or a Cargo Ship Safety Radiotelephony Certificate issued in respect of cargo ships of 300 tons gross tonnage and upwards, but less than 500 tons gross tonnage, was originally issued, that certificate may be withdrawn, and a new certificate may be issued which shall expire 12 months after the end of the said period.
- (c) If a ship at the time when its certificate expires is not in a port of the State whose flag it is entitled to fly, the certificate may be extended by the Administration, but such extension shall be granted only for the purpose of allowing the ship to complete its voyage to the State whose flag it is entitled to fly or in which it is to be surveyed, and then only in cases where it appears proper and reasonable so to do.
- (d) No certificate shall be thus extended for a longer period than five months, and a ship to which such extension is granted shall not, on its arrival in the State whose flag it is entitled to fly or the port in which it is to be surveyed, be entitled by virtue of such extension to leave that port or State without having obtained a new certificate.
- (e) A certificate which has not been extended under the foregoing provisions of this Regulation may be extended by the Administration for a period of grace of up to one month from the date of expiry stated on it.

Regulation 15
Form of Certificates

- (a) All certificates shall be drawn up in the official language or languages of the country by which they are issued.
- (b) The form of the certificates shall be that of the models given in the Appendix to the present Regulations. The arrangement of the printed part of the model certificates shall be exactly reproduced in the certificates issued, or in certified copies thereof, and the particulars inserted in the certificates issued, or in certified copies thereof, shall be in Roman characters and Arabic figures.

Regulation 16
Posting Up of Certificates

All certificates or certified copies thereof issued under the present Regulations shall be posted up in a prominent and accessible place in the ship.

Regulation 17
Acceptance of Certificates

Certificates issued under the authority of a Contracting Government shall be accepted by the other Contracting Governments for all purposes covered by the present Convention. They shall be regarded by the other Contracting Governments as having the same force as certificates issued by them.

Regulation 18
Qualification of Certificates

- (a) If in the course of a particular voyage a ship has on board a number of persons less than the total number stated in the Passenger Ship Safety Certificate and is in consequence, in accordance with the provisions of the present Regulations, free to carry a small number of lifeboats and other life-saving appliances than that stated in the Certificate, an annex may be issued by the Government, person or organization referred to in Regulation 12 or 13 of this Chapter.
- (b) This annex shall state that in the circumstances there is no infringement of the provisions of the present Regulations. It shall be annexed to the Certificate and shall be substituted for it in so far as the life-saving appliances are concerned. It shall be valid only for the particular voyage for which it is issued.

Regulation 19
Control

Every ship holding a certificate issued under Regulation 12 or Regulation 13 of this Chapter is subject in the ports of the other Contracting Governments to control by officers duly authorized by such Governments in so far as this control is directed towards verifying that there is on board a valid certificate. Such certificate shall be accepted unless there are clear grounds for believing that the condition of the ship or of its equipment does not correspond substantially with the particulars of that certificate. In that case, the officer carrying out the control shall take such steps as will ensure that the ship shall not sail until it can proceed to sea without danger to the passengers or the crew. In the event of this control giving rise to intervention of any kind, the officer carrying out the control shall inform the Consul of the State whose flag the ship is entitled to fly in writing forthwith of all the circumstances in which intervention was deemed to be necessary, and the facts shall be reported to the Organization.

**Regulation 20
Privileges**

The privileges of the present Convention may not be claimed in favour of any ship unless it holds appropriate valid certificates.

**PART C
CASUALTIES**

**Regulation 21
Casualties**

- (a) Each Administration undertakes to conduct an investigation of any casualty occurring to any of its ships subject to the provisions of the present Convention when it judges that such an investigation may assist in determining what changes in the present Regulations might be desirable.
- (b) Each Contracting Government undertakes to supply the Organization with pertinent information concerning the findings of such investigations. No reports or recommendations of the Organization based upon such information shall disclose the identity or nationality of the ships concerned or in any manner fix or imply responsibility upon any ship or person.

**CHAPTER II-1
CONSTRUCTION SUBDIVISION AND STABILITY, MACHINERY AND
ELECTRICAL INSTALLATIONS**

PART A GENERAL

**Regulation 1
Application**

- (a)
 - (i) Unless expressly provided otherwise, this Chapter applies to new ships.
 - (ii) Existing passenger ships and cargo ships shall comply with the following:
 - (1) for ships the keels of which were laid or which were at a similar stage of construction on or after the date of coming into force of the International Convention for the Safety of Life at Sea, 1960, the Administration shall ensure

that the requirements which were applied under Chapter II of that Convention to new ships as defined in that Chapter are complied with;

(2) for ships the keels of which were laid or which were at a similar stage of construction on or after the date of coming into force of the International Convention for the Safety of Life at Sea, 1948, but before the date of coming into force of the International Convention for the Safety of Life at Sea, 1960, the Administration shall ensure that the requirements which were applied under Chapter II of the 1948 Convention to new ships as defined in that Chapter are complied with;

(3) for ships the keels of which were laid or which were at a similar stage of construction before the date of coming into force of the International Convention for the Safety of Life at Sea, 1948, the Administration shall ensure that the requirements which were applied under Chapter II of that Convention to existing ships as defined in that Chapter are complied with;

(4) as regards the requirements of Chapter II-1 of the present Convention which are not contained in Chapter II of the 1960 and 1948 Conventions, the Administration shall decide which of these requirements shall be applied to existing ships as defined in the present Convention.

(iii) A ship which undergoes repairs, alterations, modifications and outfitting related thereto shall continue to comply with at least the requirements previously applicable to the ship. An existing ship in such a case shall not, as a rule, comply to a lesser extent with the requirements for a new ship than it did before. Repairs, alterations and modifications of a major character and outfitting related thereto should meet the requirements for a new ship in so far as the Administration deems reasonable and practicable.

(b) For the purpose of this Chapter:

(i) A new passenger ship is a passenger ship the keel of which is laid or which is at a similar stage of construction on or after the date of coming into force of the present Convention, or a cargo ship which is converted to a passenger ship on or after that date, all other passenger ships being described as existing passenger ships.

(ii) A new cargo ship is a cargo ship the keel of which is laid or which is at a similar stage of construction on or after the date of coming into force of the present Convention.

(c) The Administration may, if it considers that the sheltered nature and conditions of the voyage are such as to render the application of any specific requirements of this Chapter unreasonable or unnecessary, exempt from those requirements individual ships or classes

of ships belonging to its country which, in the course of their voyage, do not proceed more than 20 miles from the nearest land.

- (d) In the case of a passenger ship which is permitted under paragraph (c) of Regulation 27 of Chapter III to carry a number of persons on board in excess of the lifeboat capacity provided, it shall comply with the special standards of subdivision set out in paragraph (e) of Regulation 5 of this Chapter, and the associated special provisions regarding permeability in paragraph (d) of Regulation 4 of this Chapter, unless the Administration is satisfied that, having regard to the nature and conditions of the voyage, compliance with the other provisions of the Regulations of this Chapter and Chapter II-2 of the present Convention is sufficient.
- (e) In the case of passenger ships which are employed in special trades for the carriage of large numbers of special trade passengers, such as the pilgrim trade, the Administration, if satisfied that it is impracticable to enforce compliance with the requirements of this Chapter, may exempt such ships, when they belong to its country, from those requirements, provided that they comply fully with the provisions of:
- (i) the Rules annexed to the Special Trade Passenger Ships Agreement, 1971, and
 - (ii) the Rules annexed to the Protocol on Space Requirements for Special Trade Passenger Ships, 1973, when it enters into force.

Regulation 2 **Definitions**

For the purpose of this Chapter, unless expressly provided otherwise:

- (a)
- (i) A subdivision load line is a water-line used in determining the subdivision of the ship.
 - (ii) The deepest subdivision load line is the water-line which corresponds to the greatest draught permitted by the subdivision requirements which are applicable.
- (b) The length of the ship is the length measured between perpendiculars taken at the extremities of the deepest subdivision load line.
- (c) The breadth of the ship is the extreme width from outside of frame to outside of frame at or below the deepest subdivision load line.
- (d) The draught is the vertical distance from the moulded base line amidships to the subdivision load line in question.
- (e) The bulkhead deck is the uppermost deck up to which the transverse watertight bulkheads are carried.
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- (f) The margin line is a line drawn at least 76 millimetres (3 inches) below the upper surface of the bulkhead deck at side.
- (g) The permeability of a space is the percentage of that space which can be occupied by water.

The volume of a space which extends above the margin line shall be measured only to the height of that line.

The machinery space is to be taken as extending from the moulded base line to the margin line and between the extreme main transverse watertight bulkheads bounding the spaces containing the main and auxiliary propelling machinery, boilers serving the needs of propulsion, and all permanent coal bunkers.

In the case of unusual arrangements, the Administration may define the limits of the machinery spaces.

- (h) Passenger spaces are those which are provided for the accommodation and use of passengers, excluding baggage, store, provision and mail rooms.

For the purposes of Regulations 4 and 5 of this Chapter, spaces provided below the margin line for the accommodation and use of the crew shall be regarded as passenger spaces.

- (i) In all cases volumes and areas shall be calculated to moulded lines.

PART B SUBDIVISION AND STABILITY¹

(Part B applies to passenger ships only, except that Regulation 19 also applies to cargo ships.)

Regulation 3 Floodable Length

- (a) The floodable length at any point of the length of a ship shall be determined by a method of calculation which takes into consideration the form, draught and other characteristics of the ship in question.
- (b) In a ship with a continuous bulkhead deck, the floodable length at a given point is the maximum portion of the length of the ship, having its centre at the point in question,

¹ Instead of the requirements in this Part, the Regulations on Subdivision and Stability of Passenger Ships as an Equivalent to Part B of Chapter II of the International Convention for the Safety of Life at Sea, 1960, adopted by the Organization by Resolution A.265 (VIII), may be used, if applied, in their entirety.

which can be flooded under the definite assumptions set forth in Regulation 4 of this Chapter without the ship being submerged beyond the margin line.

- (c)
- (i) In the case of a ship not having a continuous bulkhead deck, the floodable length at any point may be determined to an assumed continuous margin line which at no point is less than 76 millimetres (3 inches) below the top of the deck (at side) to which the bulkheads concerned and the shell are carried watertight.
 - (ii) Where a portion of an assumed margin line is appreciably below the deck to which bulkheads are carried, the Administration may permit a limited relaxation in the watertightness of those portions of the bulkheads which are above the margin line and immediately under the higher deck.

Regulation 4
Permeability

- (a) The definite assumptions referred to in Regulation 3 of this Chapter relate to the permeabilities of the spaces below the margin line.

In determining the floodable length, a uniform average permeability shall be used throughout the whole length of each of the following portions of the ship below the margin line:

- (i) the machinery space as defined in Regulation 2 of this Chapter;
 - (ii) the portion forward of the machinery space; and
 - (iii) the portion abaft the machinery space.
- (b)
- (i) The uniform average permeability throughout the machinery space shall be determined from the formula –

$$85 + 10 \frac{a - c}{v}$$

where:

a = volume of the passenger spaces, as defined in Regulation 2 of this Chapter, which are situated below the margin line within the limits of the machinery space;

c = volume of between deck spaces below the margin line within the limits of the machinery space which are appropriated to cargo, coal or stores;

v = whole volume of the machinery space below the margin line.

- (ii) Where it is shown to the satisfaction of the Administration that the average permeability calculated value may be used. For the purpose of such calculation, the permeabilities of passenger spaces, as defined in Regulation 2 of this Chapter, shall be taken as 95, that of all cargo, coal and store spaces as 60, and that of double bottom, oil fuel and other tanks at such values as may be approved in each case.
- (c) Except as provided in paragraph (d) of this Regulation, the uniform average permeability throughout the portion of the ship before (or abaft) the machinery space shall be determined from the formula –

$$63 + 35 \frac{a}{v}$$

where:

a = volume of the passenger spaces, as defined in Regulation 2 of this Chapter, which are situated below the margin line, before (or abaft) the machinery space, and

v = whole volume of the portion of the ship below the margin line before (or abaft) the machinery space.

- (d) In the case of a ship which is permitted under paragraph (c) of Regulation 27 of Chapter III to carry a number of persons on board in excess of the lifeboat capacity provided, and is required under paragraph (d) of Regulation 1 of this Chapter to comply with special provisions, the uniform average permeability throughout the portion of the ship before (or abaft) the machinery space shall be determined from the formula –

$$95 - 35 \frac{b}{v}$$

where:

b = the volume of the spaces below the margin line and above the tops of floors, inner bottom, or peak tanks, as the case may be, which are appropriated to and used as cargo spaces, coal or oil fuel bunkers, store-rooms, baggage and mail rooms, chain lockers and fresh water tanks, before (or abaft) the machinery space; and

v = whole volume of the portion of the ship below the margin line before (or abaft) the machinery space.

In the case of ships engaged on services where the cargo holds are not generally occupied by any substantial quantities of cargo, no part of the cargo spaces is to be included in calculating "b".

- (e) In the case of unusual arrangements the Administration may allow, or require, a detailed calculation of average permeability for the portions before or abaft the machinery space. For the purpose of such calculation, the permeability of passenger spaces as defined in Regulation 2 of this Chapter shall be taken as 95, that of spaces containing machinery as 85, that of all cargo, coal and store spaces as 60, and that of double bottom, oil fuel and other tanks at such value as may be approved in each case.

- (f) Where a between deck compartment between two watertight transverse bulkheads contains any passenger or crew space, the whole of that compartment, less any space completely enclosed within permanent steel bulkheads and appropriated to other purposes, shall be regarded as passenger space. Where, however, the passenger or crew space in question is completely enclosed within permanent steel bulkheads, only the space so enclosed need be considered as passenger space.

Regulation 5
Permissible Length of Compartments

- (a) Ships shall be as effectively subdivided as is possible having regard to the nature of the service for which they are intended. The degree of subdivision shall vary with the length of the ship and with the service, in such manner that the highest degree of subdivision corresponds with the ships of greatest length, primarily engaged in the carriage of passengers.
- (b) *Factor of subdivision.* The maximum permissible length of a compartment having its centre at any point in the ship's length is obtained from the floodable length by multiplying the latter by an appropriate factor called the factor of subdivision.

The factor of subdivision shall depend on the length of the ship, and for a given length shall vary according to the nature of the service for which the ship is intended. It shall decrease in a regular and continuous manner:

- (i) as the length of the ship increases, and
- (ii) from a factor A, applicable to ships primarily engaged in the carriage of cargo, to a factor B, applicable to ships primarily engaged in the carriage of passengers.

The variations of the factors A and B shall be expressed by the following formulae (I) and (II) where L is the length of the ship as defined in Regulation 2 of this Chapter:

L in metres:

$$A = \frac{582}{L-60} + .18 \quad (L = 131 \text{ and upwards}) \quad (\text{I})$$

L in feet:

$$A = \frac{190}{L-198} + .18 \quad (L = 430 \text{ and upwards})$$

L in metres:

$$B = \frac{30.3}{L-42} + .18 \quad (L = 79 \text{ and upwards}) \dots \dots \quad (\text{II})$$

L in feet:

$$B = \frac{100}{L-138} + .18 \quad (L = 260 \text{ and upwards})$$

- (c) *Criterion of service.* For a ship of given length the appropriate factor of subdivision shall be determined by the Criterion of Service Numeral (hereinafter called the Criterion Numeral) as given by the following formulae (III) and (IV) where:

C_s = the Criterion Numeral;

L = length of the ship, as defined in Regulation 2 of this Chapter;

M = the volume of the machinery space, as defined in Regulation 2 of this Chapter; with the addition thereto of the volume of any permanent oil fuel bunkers which may be situated above the inner bottom and before or abaft the machinery space;

P = the whole volume of the passenger spaces below the margin line, as defined in Regulation 2 of this Chapter;

V = the whole volume of the ship below the margin line; $P_1 = KN$ where:

$P_1 = KN$ where:

N = number of passengers for which the ship is to be certified, and

K has the following values:

	<i>Value of K</i>
Length in metres and volumes in cubic feet.....	.056L
Length in feet and volumes in cubic feet.....	.6L

Where the value of KN is greater than the sum of P and the whole volume of the actual passenger spaces above the margin line, the figure to be taken as P_1 is that sum or two-thirds KN , whichever is the greater.

When P_1 is greater than P -

$$C_s = 72 \frac{M + 2P_1}{V + P_1 - P} \tag{III}$$

and in other cases -

$$C_s = 72 \frac{M + 2P}{V} \tag{IV}$$

For ships not having a continuous bulkhead deck the volumes are to be taken up to the actual margin lines used in determining the floodable lengths.

- (d) *Rules for subdivision of ships other than those covered by paragraph (e) of this Regulation*

- (i) The subdivision abaft the forepeak of ships 131 metres (430 feet) in length and upwards having a criterion numeral of 23 or less shall be governed by the factor A given by formula (I); of those having a criterion numeral of 123 or more by the factor B given by formula (II); and of those having a criterion numeral between 23 and 123 by the factor F obtained by linear interpolation between the factors A and B , using the formula:

$$F = A - \frac{(A - B)(C_s - 23)}{100} \tag{V}$$

Nevertheless, where the criterion numeral is equal to 45 or more and simultaneously the computed factor of subdivision as given by formula (V) is .65 or less, but more than .50, the subdivision abaft the forepeak shall be governed by the factor .50.

Where the factor F is less than .40 and it is shown to the satisfaction of the Administration to be impracticable to comply with the factor F in a machinery compartment of the ship, the subdivision of such compartment may be governed by an increased factor, which, however, shall not exceed .40.

(ii) The subdivision abaft the forepeak of ships less than 131 metres (430 feet) but not less than 79 metres (260 feet) in length having a criterion numeral equal to S, where –

$$S = \frac{3,574 - 25L}{13} \quad (\text{L in metres}) = \frac{9,382 - 20L}{34} \quad (\text{L in feet})$$

shall be governed by the factor unity; of those having a criterion numeral of 123 or more by the factor B given by the formula (II); of those having a criterion numeral between S and 123 by the factor F obtained by linear interpolation between unity and the factor B using the formula:

$$F = 1 - \frac{(1-B)(C-S)}{123-S} \dots\dots\dots(\text{VI})$$

(iii) The subdivision abaft the forepeak of ships less than 131 metres (430 feet) but not less than 79 metres (260 feet) in length and having a criterion numeral less than S, and of all ships less than 79 metres (260 feet) in length shall be governed by the factor unity, unless, in either case, it is shown to the satisfaction of the Administration to be impracticable to comply with this factor in any part of the ship, in which case the Administration may allow such relaxation as may appear to be justified, having regard to all the circumstances.

(iv) The provisions of sub-paragraph (iii) of this paragraph shall apply also to ships of whatever length, which are to be certified to carry a number of passengers exceeding 12 but not exceeding –

$$\frac{L^2}{650} \text{ (in metres)} - \frac{L^2}{7,000} \text{ (in feet), or 50, whichever is the less.}$$

(e) Special standards of subdivision for ships which are permitted under paragraph (c) of Regulation 27 of Chapter III to carry a number of persons on board in excess of the lifeboat capacity provided and are required under paragraph (d) of Regulation 1 of this Chapter to comply with special provisions;

- (i)
- (1) In the case of ships primarily engaged in the carriage of passengers, the subdivision abaft the forepeak shall be governed by a factor of .50 or by the factor determined according to paragraphs (c) and (d) of this Regulation, if less than .50.
 - (2) In the case of such ships less than 91.5 metres (300 feet) in length, if the Administration is satisfied that compliance with such factor would be impracticable in a compartment, it may allow the length of that compartment to be governed by a higher factor provided the factor used is the lowest that is practicable and reasonable in the circumstances.
- (ii) Where, in the case of any ship whether less than 91.5 metres (300 feet) or not, the necessity of carrying appreciable quantities of cargo makes it impracticable to require the subdivision abaft the forepeak to be governed by a factor not exceeding .50, the standard of subdivision to be applied shall be determined in accordance with the following sub-paragraphs (1) to (5), subject to the condition that where the Administration is satisfied that insistence on strict compliance in any respect would be unreasonable, it may allow such alternative arrangement of the watertight bulkheads as appears to be justified on merits and will not diminish the general effectiveness of the subdivision.
- (1) The provisions of paragraph (c) of this Regulation relating to the criterion numeral shall apply with the exception that in calculating the value of P_1 for berthed passengers K is to have the value defined in paragraph (c) of this Regulation, or 3.55 cubic metres (125 cubic feet), whichever is the greater, and for unberthed passengers K is to have the value 3.55 cubic metres (125 cubic feet).
 - (2) The factor B in paragraph (b) of this Regulation shall be replaced by the factor BB determined by the following formula:

L in metres:
$$BB = \frac{17.6}{L-33} + .20 \quad (L = 55 \text{ and upwards})$$

L in feet:
$$BB = \frac{57.6}{L-108} + .20 \quad (L = 180 \text{ and upwards})$$
 - (3) The subdivision abaft the forepeak of ships 131 metres (430 feet) in length and upwards having a criterion numeral of 23 or less shall be governed by the factor A given by formula (I) in paragraph (b) of this Regulation; of those having a criterion numeral of 123 or more by the factor BB given by the formula in sub-paragraph (ii)(2) of this paragraph; and of those having a criterion numeral
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between 23 and 123 by the factor F obtained by linear interpolation between the factors A and BB, using the formula:

$$F = A - \frac{(A - BB)(C_i - 23)}{100}$$

except that if the factor F so obtained is less than .50 the factor to be used shall be either .50 or the factor calculated according to the provisions of sub-paragraph (d)(i) of this Regulation, whichever is the smaller.

- (4) The subdivision abaft the forepeak of ships less than 131 metres (430 feet) but not less than 55 metres (180 feet) in length having a criterion numeral equal to S_1 where –

$$S_1 = \frac{3,712 - 25L}{19} \quad (\text{L in metres})$$

$$S_1 = \frac{1,950 - 4L}{10} \quad (\text{L in feet})$$

shall be governed by the factor unity; of those having a criterion numeral of 123 or more by the factor BB given by the formula in sub-paragraph (ii)(2) of this paragraph; of those having a criterion numeral between S_1 and 123 by the factor F obtained by linear interpolation between unity and the factor BB using the formula:

$$F = 1 - \frac{(1 - BB)(C_i - S_1)}{123 - S_1}$$

except that in either of the two latter cases if the factor so obtained is less than .50 the subdivision may be governed by a factor not exceeding .50.

- (5) The subdivision abaft the forepeak of ships less than 131 metres (430 feet) but not less than 55 metres (180 feet) in length and having a criterion numeral less than S_1 and of all ships less than 55 metres (180 feet) in length shall be governed by the factor unity, unless it is shown to the satisfaction of the Administration to be impracticable to comply with this factor in particular compartments, in which event the Administration may allow such relaxations in respect of those compartments as appear to be justified, having regard to all the circumstances, provided that the aftermost compartment and as many as possible of the forward compartments (between the forepeak and the after end of the machinery space) shall be kept within the floodable length.

Regulation 6
Special Rules Concerning Subdivision

- (a) Where in a portion or portions of a ship the watertight bulkheads are carried to a higher deck than in the remainder of the ship and it is desired to take advantage of this higher extension of the bulkheads in calculating the floodable length, separate margin lines may be used for each such portion of the ship provided that:
- (i) the sides of the ship are extended throughout the ship's length to the deck corresponding to the upper margin line and all openings in the shell plating below this deck throughout the length of the ship are treated as being below a margin line, for the purposes of Regulation 14 of this Chapter; and
 - (ii) the two compartments adjacent to the "step" in the bulkhead deck are each within the permissible length corresponding to their respective margin lines, and, in addition, their combined length does not exceed twice the permissible length based on the lower margin line.
- (b)
- (i) A compartment may exceed the permissible length determined by the rules of Regulation 5 of this Chapter provided the combined length of each pair of adjacent compartments to which the compartment in question is common does not exceed either the floodable length or twice the permissible length, whichever is the less.
 - (ii) If one of the two adjacent compartments is situated inside the machinery space, and the second is situated outside the machinery space, and the average permeability of the portion of the ship in which the second is situated differs from that of the machinery space, the combined length of the two compartments shall be adjusted to the mean average permeability of the two portions of the ship in which the compartments are situated.
 - (iii) Where the two adjacent compartments have different factors of subdivision, the combined length of the two compartments shall be determined proportionately.
- (c) In ships 100 metres (330 feet) in length and upwards, one of the main transverse bulkheads abaft the forepeak shall be fitted at a distance from forward perpendicular which is not greater than the permissible length.
- (d) A main transverse bulkhead may be recessed provided that all parts of the recess lie inboard of vertical surfaces on both sides of the ship, situated at a distance from the shell plating equal to one-fifth the breadth of the ship, as defined in Regulation 2 of this Chapter, and measured at right angles to the centre line at the level of the deepest subdivision load line.
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Any part of a recess which lies outside these limits shall be dealt with as a step in accordance with paragraph (e) of this Regulation.

- (e) A main transverse bulkhead may be stepped provided that it meets one of the following conditions:
- (i) the combined length of the two compartments, separated by the bulkhead in question, does not exceed either 90 per cent of the floodable length or twice the permissible length, except than in ships having a factor of subdivision greater than .9, the combined length of the two compartments in question shall not exceed the permissible length;
 - (ii) additional subdivision is provided in way of the step to maintain the same measure of safety as that secured by a plane bulkhead;
 - (iii) the compartment over which the step extends does not exceed the permissible length corresponding to a margin line taken 76 millimetres (3 inches) below the step.
- (f) Where a main transverse bulkhead is recessed or stepped, an equivalent plane bulkhead shall be used in determining the subdivision.
- (g) If the distance between two adjacent main transverse bulkheads, or their equivalent plane bulkheads, or the distance between the transverse planes passing through the nearest stepped portions of the bulkheads, is less than 3.05 metres (10 feet) plus 3 per cent of the length of the ship, or 10.67 metres (35 feet) whichever is the less, only one of these bulkheads shall be regarded as forming part of the subdivision of the ship in accordance with the provisions of Regulation 5 of this Chapter.
- (h) Where a main transverse watertight compartment contains local subdivision and it can be shown to the satisfaction of the Administration that, after any assumed side damage extending over a length of 3.05 metres (10 feet) plus 3 per cent of the length of the ship, or 10.67 metres (35 feet) whichever is the less, the whole volume of the main compartment will not be flooded, a proportionate allowance may be made in the permissible length otherwise required for such compartment. In such a case the volume of effective buoyancy assumed on the undamaged side shall not be greater than that assumed on the damaged side.
- (i) Where the required factor of subdivision is .50 or less, the combined length of any two adjacent compartments shall not exceed the floodable length.

Regulation 7
Stability of Ships in Damaged Condition

- (a) Sufficient intact stability shall be provided in all service conditions so as to enable the ship to withstand the final stage of flooding of any one main compartment which is required to be within the floodable length.

Where two adjacent main compartments are separated by a bulkhead which is stepped under the conditions of sub-paragraph (e)(i) of Regulation 6 of this Chapter the intact stability shall be adequate to withstand the flooding of those two adjacent main compartments.

Where the required factor of subdivision is .50 or less but more than .33, intact stability shall be adequate to withstand the flooding of any two adjacent main compartments.

Where the required factor of subdivision is .33 or less the intact stability shall be adequate to withstand the flooding of any three adjacent main compartments.

- (b)
- (i) The requirements of paragraph (a) of this Regulation shall be determined by calculations which are in accordance with paragraphs (c), (d) and (f) of this Regulation and which take into consideration the proportions and design characteristics of the ship and the arrangement and configuration of the damaged compartments. In making these calculations the ship is to be assumed in the worst anticipated service condition as regards stability.
- (ii) Where it is proposed to fit decks, inner skins or longitudinal bulkheads of sufficient tightness to seriously restrict the flow of water, the Administration shall be satisfied that proper consideration is given to such restrictions in the calculations.
- (iii) In cases where the Administration considers the range of stability in the damaged condition to be doubtful, it may require investigation thereof.
- (c) For the purpose of making damage stability calculations the volume and surface permeabilities shall be in general as follows:

<i>Spaces</i>	<i>Permeability</i>
Appropriated to cargo, coal or stores	60
Occupied by accommodation	95
Occupied by machinery	85
Intended for Liquids	0 or 95 ²

² Whichever results in the more severe requirements

Higher surface permeabilities are to be assumed in respect of spaces which, in the vicinity of the damage waterplane, contain no substantial quantity of accommodation or machinery and spaces which are not generally occupied by any substantial quantity of cargo or stores.

(d) Assumed extent of damage shall be as follows:

- (i) longitudinal extent: 3.05 metres (10 feet) plus 3 per cent of the length of the ship, or 10.67 metres (35 feet) whichever is the less. Where the required factor of subdivision is .33 or less the assumed longitudinal extent of damage shall be increased as necessary so as to include any two consecutive main transverse watertight bulkheads;
- (ii) transverse extent (measured inboard from the ship's side, at right angles to the centre line at the level of the deepest subdivision load line): a distance of one-fifth of the breadth of the ship, as defined in Regulation 2 of this Chapter; and
- (iii) vertical extent: from the base line upwards without limit.
- (iv) If any damage of lesser extent than that indicated in sub-paragraphs (i), (ii) and (iii) of this paragraph would result in a more severe condition regarding heel or loss of metacentric height, such damage shall be assumed in the calculations.

(e) Unsymmetrical flooding is to be kept to a minimum consistent with efficient arrangements. Where it is necessary to correct large angles of heel, the means adopted shall, where practicable, be self-acting, but in any case where controls to cross-flooding fittings are provided they shall be operable from above the bulkhead deck. These fittings together with their controls as well as the maximum heel before equalization shall be acceptable to the Administration. Where cross-flooding fittings are required the time for equalization shall not exceed 15 minutes. Suitable information concerning the use of cross-flooding fittings shall be supplied to the master of the ship.³

(f) The final conditions of the ship after damage and, in the case of unsymmetrical flooding, after equalization measures have been taken shall be as follows:

- (i) in the case of symmetrical flooding there shall be a positive residual metacentric height of at least 50 millimetres (2 inches) as calculated by the constant displacement method;
- (ii) in the case of unsymmetrical flooding the total heel shall not exceed seven degrees, except that, in special cases, the Administration may allow additional heel due to the unsymmetrical moment, but in no case shall the final heel exceed fifteen degrees;

³ Reference is made to the Recommendation on a Standard Method for Establishing Compliance with the Requirements for Cross-Flooding Arrangements in Passenger Ships, adopted by the Organization by Resolution A.266(VII)

- (iii) in no case shall the margin line be submerged in the final stage of flooding. If it is considered that the margin line may become submerged during an intermediate stage of flooding, the Administration may require such investigations and arrangements as it considers necessary for the safety of the ship.
- (g) The master of the ship shall be supplied with the data necessary to maintain sufficient intact stability under service conditions to enable the ship to withstand the critical damage. In the case of ships requiring cross-flooding the master of the ship shall be informed of the conditions of stability on which the calculations of heel are based and be warned that excessive heeling might result should the ship sustain damage when in a less favourable condition.
- (h)
- (i) No relaxation from the requirements for damage stability may be considered by the Administration unless it is shown that the intact metacentric height in any service condition necessary to meet these requirements is excessive for the service intended.
- (ii) Relaxations from the requirements for damage stability shall be permitted only in exceptional cases and subject to the condition that the Administration is to be satisfied that the proportions, arrangements and other characteristics of the ship are the most favourable to stability after damage which can practically and reasonably be adopted in the particular circumstances.

Regulation 8
Ballasting

When ballasting with water is necessary, the water ballast should not in general be carried in tanks intended for oil fuel. In ships in which it is not practicable to avoid putting water in oil fuel tanks, oily-water separator equipment to the satisfaction of the Administration shall be fitted, or other alternative means acceptable to the Administration shall be provided for disposing of the oily-water ballast.

Regulation 9
Peak and Machinery Space Bulkheads, Shaft Tunnels, etc.

- (a)
- (i) A ship shall have a forepeak or collision bulkhead, which shall be watertight up to the bulkhead deck. This bulkhead shall be fitted not less than 5 per cent of the length of the ship, and not more than 3.05 metres (10 feet) plus 5 per cent of the length of the ship from the forward perpendicular.
- (ii) If the ship has a long forward superstructure, the forepeak bulkhead shall be extended weathertight to the deck next above the bulkhead deck. The extension need not be fitted directly over the bulkhead below, provided it is at least 5 per cent of the length

of the ship from the forward perpendicular, and the part of the bulkhead deck which forms the step is made effectively weathertight.

- (b) An afterpeak bulkhead, and bulkheads dividing the machinery space, as defined in Regulation 2 of this Chapter, from the cargo and passenger spaces forward and aft, shall also be fitted and made watertight up to the bulkhead deck. The afterpeak bulkhead may, however, be stepped below the bulkhead deck, provided the degree of safety of the ship as regards subdivision is not thereby diminished.
- (c) In all cases stem tubes shall be enclosed in watertight spaces of moderate volume. The stern gland shall be situated in a watertight shaft tunnel or other watertight space separate from the stern tube compartment and of such volume that, if flooded by leakage through the stern gland, the margin line will not be submerged.

Regulation 10 Double Bottoms

- (a) A double bottom shall be fitted extending from the forepeak bulkhead to the after peak bulkhead as far as this is practicable and compatible with the design and proper working of the ship.
 - (i) In ships 50 metres (165 feet) and under 61 metres (200 feet) in length a double bottom shall be fitted at least from the machinery space to the forepeak bulkhead, or as near thereto as practicable.
 - (ii) In ships 61 metres (200 feet) and under 76 metres (249 feet) in length a double bottom shall be fitted at least outside the machinery space, and shall extend to the fore and after peak bulkheads, or as near thereto as practicable.
 - (iii) In ships 76 metres (249 feet) in length and upwards, a double bottom shall be fitted amidships, and shall extend to the fore and after peak bulkheads, or as near thereto as practicable.
 - (b) Where a double bottom is required to be fitted its depth shall be to the satisfaction of the Administration and the inner bottom shall be continued out to the ship's sides in such a manner as to protect the bottom to the turn of the bilge. Such protection will be deemed satisfactory if the line of intersection of the outer edge of the margin plate with the bilge plating is not lower at any part than a horizontal plane passing through the point of intersection with the frame line amidships of a transverse diagonal line inclined at 25 degrees to the base line and cutting it at a point one-half the ship's moulded breadth from the middle line.
 - (c) Small wells constructed in the double bottom in connexion with drainage arrangements of holds, *etc.*, shall not extend downwards more than necessary. The depth of the well shall in no case be more than the depth less 457 millimetres (18 inches) of the double bottom at
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the centreline, nor shall the well extend below the horizontal plane referred to in paragraph (b) of this Regulation. A well extending to the outer bottom is, however, permitted at the after end of the shaft tunnel of screw-ships. Other wells (e.g., for lubricating oil under main engines) may be permitted by the Administration if satisfied that the arrangements give protection equivalent to that afforded by a double bottom complying with this Regulation.

- (d) A double bottom need not be fitted in way of watertight compartments of moderate size used exclusively for the carriage of liquids, provided the safety of the ship, in the event of bottom or side damage, is not, in the opinion of the Administration, thereby impaired.
- (e) In the case of ships to which the provisions of paragraph (d) of Regulation 1 of this Chapter apply and which are engaged on regular service within the limits of a short international voyage as defined in Regulation 2 of Chapter III, the Administration may permit a double bottom to be dispensed with in any part of the ship which is subdivided by a factor not exceeding .50, if satisfied that the fitting of a double bottom in that part would not be compatible with the design and proper working of the ship.

Regulation 11

Assigning, Marking and Recording of Subdivision Load Lines

- (a) In order that the required degree of subdivision shall be maintained, a load line corresponding to the approved subdivision draught shall be assigned and marked on the ship's sides. A ship having spaces which are specially adapted for the accommodation of passengers and the carriage of cargo alternatively may, if the owners desire, have one or more additional load lines assigned and marked to correspond with the subdivision draughts which the Administration may approve for the alternative service conditions.
- (b) The subdivision load lines assigned and marked shall be recorded in the Passenger Ship Safety Certificate, and shall be distinguished by the notation C.1 for the principal passenger condition, and C.2, C.3, *etc.*, for the alternative conditions.
- (c) The freeboard corresponding to each of these load lines shall be measured at the same position and from the same deck line as the freeboards determined in accordance with the International Convention respecting Load Lines in force.
- (d) The freeboard corresponding to each approved subdivision load line and the conditions of service for which it is approved, shall be clearly indicated on the Passenger Ship Safety Certificate.
- (e) In no case shall any subdivision load line mark be placed above the deepest load line in salt water as determined by the strength of the ship and/or the International Convention respecting Load Lines in force.

- (f) Whatever may be the position of the subdivision load line marks, a ship shall in no case be loaded so as to submerge the load line mark appropriate to the season and locality as determined in accordance with the International Convention respecting Load Lines in force.
- (g) A ship shall in no case be so loaded that when she is in salt water the subdivision load line mark appropriate to the particular voyage and condition of service is submerged.

Regulation 12
Construction and Initial Testing of Watertight Bulkheads, etc.

- (a) Each watertight subdivision bulkhead, whether transverse or longitudinal, shall be constructed in such a manner that it shall be capable of supporting, with a proper margin of resistance, the pressure due to the maximum head of water which it might have to sustain in the event of damage to the ship but at least the pressure due to a head of water up to the margin line. The construction of these bulkheads shall be to the satisfaction of the Administration.
 - (b)
 - (i) Steps and recesses in bulkheads shall be watertight and as strong as the bulkhead at the place where each occurs.
 - (ii) Where frames or beams pass through a watertight deck or bulkhead, such deck or bulkhead shall be made structurally watertight without the use of wood or cement.
 - (c) Testing main compartments by filling them with water is not compulsory. When testing by filling with water is not carried out, a hose test is compulsory; this test shall be carried out in the most advanced stage of the fitting out of the ship. In any case, a thorough inspection of the watertight bulkheads shall be carried out.
 - (d) The forepeak, double bottoms (including duct keels) and inner skins shall be tested with water to a head corresponding to the requirements of paragraph (a) of this Regulation.
 - (e) Tanks which are intended to hold liquids, and which form part of the subdivision of the ship, shall be tested for tightness with water to a head up to the deepest subdivision load line or to a head corresponding to two-thirds of the depth from the top of keel to the margin line in way of the tanks, whichever is the greater; provided that in no case shall the test head be less than 0.92 metres (3 feet) above the top of the tank.
 - (f) The tests referred to in paragraphs (d) and (e) of this Regulation are for the purpose of ensuring that the subdivision structural arrangements are watertight and are not to be regarded as a test of the fitness of any compartment for the storage of oil fuel or for other special purposes for which a test of a superior character may be required depending on the height to which the liquid has access in the tank or its connexions.
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Regulation 13
Openings in Watertight Bulkheads

- (a) The number of openings in watertight bulkheads shall be reduced to the minimum compatible with the design and proper working of the ship; satisfactory means shall be provided for closing these openings.
- (b)
- (i) Where pipes, scuppers, electric cables, *etc.* are carried through watertight subdivision bulkheads, arrangements shall be made to ensure the integrity of the watertightness of the bulkheads.
 - (ii) Valves and cocks not forming part of a piping system shall not be permitted in watertight subdivision bulkheads.
 - (iii) Lead or other heat sensitive materials shall not be used in systems which penetrate watertight subdivision bulkheads, where deterioration of such systems in the event of fire would impair the watertight integrity of the bulkheads.
- (c)
- (i) No doors, manholes, or access openings are permitted:
 - (1) in the collision bulkhead below the margin line;
 - (2) in watertight transverse bulkheads dividing a cargo space from an adjoining cargo space or from a permanent or reserve bunker, except as provided in paragraph (1) of this Regulation.
 - (ii) Except as provided in sub-paragraph (iii) of this paragraph, the collision bulkhead may be pierced below the margin line by not more than one pipe for dealing with fluid in the forepeak tank, provided that the pipe is fitted with a screwdown valve capable of being operated from above the bulkhead deck, the valve chest being secured inside the forepeak to the collision bulkhead.
 - (iii) If the forepeak is divided to hold two different kinds of liquids the Administration may allow the collision bulkhead to be pierced below the margin line by two pipes, each of which is fitted as required by sub-paragraph (ii) of this paragraph, provided the Administration is satisfied that there is no practical alternative to the fitting of such a second pipe and that, having regard to the additional subdivision provided in the forepeak, the safety of the ship is maintained.
- (d)
- (i) Watertight doors fitted in bulkheads between permanent and reserve bunkers shall be always accessible, except as provided in sub-paragraph (ii) of paragraph (k) of this Regulation for between deck bunker doors.
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- (ii) Satisfactory arrangements shall be made by means of screens or otherwise to prevent the coal from interfering with the closing of watertight bunker doors.
 - (e) Within spaces containing the main and auxiliary propelling machinery including boilers serving the needs of propulsion and all permanent bunkers, not more than one door apart from the doors to bunkers and shaft tunnels may be fitted in each main transverse bulkhead. Where two or more shafts are fitted the tunnels shall be connected by an intercommunicating passage. There shall be only one door between the machinery space and the tunnel spaces where two shafts are fitted and only two doors where there are more than two shafts. All these doors shall be of the sliding type and shall be located so as to have their sills as high as practicable. The hand gear for operating these doors from above the bulkhead deck shall be situated outside the spaces containing the machinery if this is consistent with a satisfactory arrangement of the necessary gearing.
 - (f)
 - (i) Watertight doors shall be sliding doors or hinged doors or doors of an equivalent type. Plate doors secured only by bolts and doors required to be closed by dropping or by the action of a dropping weight are not permitted.
 - (ii) Sliding doors may be either:
 - a. hand-operated only, or
 - b. power-operated as well as hand-operated.
 - (iii) Authorized watertight doors may therefore be divided into three Classes:
 - a. Class 1, hinged doors;
 - b. Class 2, hand-operated sliding doors;
 - c. Class 3, sliding doors which are power-operated as well as hand-operated.
 - (iv) The means of operation of any watertight door whether power-operated or not shall be capable of closing the door with the ship listed to 15 degrees either way.
 - (v) In all classes of watertight doors indicators shall be fitted which show, at all operating stations from which the doors are not visible, whether the doors are open or closed. If any of the watertight doors, of whatever Class, is not fitted so as to enable it to be closed from a central control station, it shall be provided with a mechanical, electrical, telephonic, or any other suitable direct means of communication, enabling the officer of the watch promptly to contact the person who is responsible for closing the door in question, under previous orders.
 - (g) Hinged doors (Class 1) shall be fitted with quick action closing devices, such as catches, workable from each side of the bulkhead.
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- (h) Hand-operated sliding doors (Class 2) may have a horizontal or vertical motion. It shall be possible to operate the mechanism at the door itself from either side, and in addition, from an accessible position above the bulkhead deck, with an all round crank motion, or some other movement providing the same guarantee of safety and of an approved type. Departures from the requirement of operation on both sides may be allowed, if this requirement is impossible owing to the layout of the spaces. When operating a hand gear the time necessary for the complete closure of the door with the vessel upright, shall not exceed 90 seconds.
- (i)
- (i) Power-operated sliding doors (Class 3) may have a vertical or horizontal motion. If a door is required to be power-operated from a central control, the gearing shall be so arranged that the door can be operated by power also at the door itself from both sides. The arrangement shall be such that the door will close automatically if opened by local control after being closed from the central control, and also such that any door can be kept closed by local systems which will prevent the door from being opened from the upper control. Local control handles in connexion with the power gear shall be provided each side of the bulkhead and shall be so arranged as to enable persons passing through the doorway to hold both handles in the open position without being able to set the closing mechanism in operation accidentally. Power-operated sliding doors shall be provided with hand gear workable at the door itself on either side and from an accessible position above the bulkhead deck, with an all round crank motion or some other movement providing the same guarantee of safety and of an approved type. Provision shall be made to give warnings by sound signal that the door has begun to close and will continue to move until it is completely closed. The door shall take a sufficient time to close to ensure safety.
- (ii) There shall be at least two independent power sources capable of opening and closing all the doors under control, each of them capable of operating all the doors simultaneously. The two power sources shall be controlled from the central station on the bridge provided with all the necessary indicators for checking that each of the two power sources is capable of giving the required service satisfactorily.
- (iii) In the case of hydraulic operation, each power source shall consist of a pump capable of closing all doors in not more than 60 seconds. In addition, there shall be for the whole installation hydraulic accumulators of sufficient capacity to operate all the doors at least three times, i.e., closed-open- closed. The fluid used shall be one which does not freeze at any of the temperatures liable to be encountered by the ship during its service.
- (j)
- (i) Hinged watertight doors (Class 1) in passenger, crew and working spaces are only permitted above a deck the underside of which, at its lowest point at side, is at least 2.13 metres (7 feet) above the deepest subdivision load line.
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- (ii) Watertight doors, the sills of which are above the deepest load line and below the line specified in the preceding sub-paragraph shall be sliding doors and may be hand-operated (Class 2), except in vessels engaged on short international voyages and required to have a factor of subdivision of .50 or less in which all such doors shall be power-operated. When trunkways in connexion with refrigerated cargo and ventilation or forced draught ducts are carried through more than one main watertight subdivision bulkhead, the doors at such openings shall be operated by power.

- (k)
 - (i) Watertight doors which may sometimes be opened at sea, and the sills of which are below the deepest subdivision load line shall be sliding doors. The following rules shall apply:
 - (1) when the number of such doors (excluding doors at entrances to shaft tunnels) exceeds five, all of these doors and those at the entrance to shaft tunnels or ventilation or forced draught ducts, shall be power-operated (Class 3) and shall be capable of being simultaneously closed from a central station situated on the bridge;
 - (2) when the number of such doors (excluding doors at entrances to shaft tunnels) is greater than one, but does not exceed five,
 - (a) where the ship has no passenger spaces below the bulkhead deck, all the above-mentioned doors may be hand-operated (Class 2);
 - (b) where the ship has passenger spaces below the bulkhead deck all the above-mentioned doors shall be power-operated (Class 3) and shall be capable of being simultaneously closed from a central station situated on the bridge;
 - (3) in any ship where there are only two such watertight doors and they are into or within the space containing machinery, the Administration may allow these two doors to be hand-operated only (Class 2).
 - (ii) If sliding watertight doors which have sometimes to be open at sea for the purpose of trimming coal are fitted between bunkers in the between decks below the bulkhead deck, these doors shall be operated by power. The opening and closing of these doors shall be recorded in such log book as may be prescribed by the Administration.

- (l)
 - (i) If the Administration is satisfied that such doors are essential, watertight doors of satisfactory construction may be fitted in watertight bulkheads dividing cargo between deck spaces. Such doors may be hinged, rolling or sliding doors but shall not be remotely controlled. They shall be fitted at the highest level and as far from the shell plating as practicable, but in no case shall the outboard vertical edges be situated at a distance from the shell plating which is less than one-fifth of the breadth of the ship,

as defined in Regulation 2 of this Chapter, such distance being measured at right angles to the centre line of the ship at the level of the deepest subdivision load line.

- (ii) Such doors shall be closed before the voyage commences and shall be kept closed during navigation; and the time of opening such doors in port and of closing them before the ship leaves port shall be entered in the log book. Should any of the doors be accessible during the voyage, they shall be fitted with a device which prevents unauthorized opening. When it is proposed to fit such doors, the number and arrangements shall receive the special consideration of the Administration.
- (m) Portable plates on bulkheads shall not be permitted except in machinery spaces. Such plates shall always be in place before the ship leaves port, and shall not be removed during navigation except in case of urgent necessity. The necessary precautions shall be taken in replacing them to ensure that the joints shall be watertight.
- (n) All watertight doors shall be kept closed during navigation except when necessarily opened for the working of the ship, and shall always be ready to be immediately closed.
- (o)
 - (i) Where trunkways or tunnels for access from crew accommodation to the stokehold, for piping, or for any other purpose are carried through main transverse watertight bulkheads, they shall be watertight and in accordance with the requirements of Regulation 16 of this Chapter. The access to at least one end of each such tunnel or trunkway, if used as a passage at sea, shall be through a trunk extending watertight to a height sufficient to permit access above the margin line. The access to the other end of the trunkway or tunnel may be through a watertight door of the type required by its location in the ship. Such trunkways or tunnels shall not extend through the first subdivision bulkhead abaft the collision bulkhead.
 - (ii) Where it is proposed to fit tunnels or trunkways for forced draught, piercing main transverse watertight bulkheads, these shall receive the special consideration of the Administration.

Regulation 14
Openings in the Shell Plating Below the Margin Line

- (a) The number of openings in the shell plating shall be reduced to the minimum compatible with the design and proper working of the ship.
 - (b) The arrangement and efficiency of the means for closing any opening in the shell plating shall be consistent with its intended purpose and the position in which it is fitted and generally to the satisfaction of the Administration.
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- (c)
- (i) If in a between decks, the sills of any sidescuttles are below a line drawn parallel to the bulkhead deck at side and having its lowest point 21/2 per cent of the breadth of the ship above the deepest sub-division load line, all sidescuttles in that between deck shall be of the non-opening type.
 - (ii) All sidescuttles the sills of which are below the margin line, other than those required to be of a non-opening type by sub-paragraph (i) of this paragraph, shall be of such construction as will effectively prevent any person opening them without the consent of the master of the ship.
 - (iii)
 - (1) Where in a between decks, the sills of any of the sidescuttles referred to in sub-paragraph (ii) of this paragraph are below a line drawn parallel to the bulkhead deck at side and having its lowest point 1.37 metres (4 1/2 feet) plus 21/2 per cent of the breadth of the ship above the water when the ship departs from any port, all the sidescuttles in that between decks shall be closed watertight and locked before the ship leaves port, and they shall not be opened before the ship arrives at the next port. In the application of this sub-paragraph the appropriate allowance for fresh water may be made when applicable.
 - (2) The time of opening such sidescuttles in port and of closing and locking them before the ship leaves port shall be entered in such log book as may be prescribed by the Administration.
 - (3) For any ship that has one or more sidescuttles so placed that the requirements of clause (1) of this sub-paragraph would apply when she was floating at her deepest subdivision load line, the Administration may indicate the limiting mean draught at which these sidescuttles will have their sills above the line drawn parallel to the bulkhead deck at side, and having its lowest point 1.37 metres (4 1/2 feet) plus 21/2 per cent of the breadth of the ship above the water-line corresponding to the limiting mean draught, and at which it will therefore be permissible to depart from port without previously closing and locking them and to open them at sea on the responsibility of the master during the voyage to the next port. In tropical zones as defined in the International Convention respecting Load Lines in force, this limiting draught may be increased by 0.305 metres (1 foot).
- (d) Efficient hinged inside deadlights arranged so that they can be easily and effectively closed and secured watertight shall be fitted to all sidescuttles except that abaft one-eighth of the ship's length from the forward perpendicular and above a line drawn parallel to the bulkhead deck at side and having its lowest point at a height of 3.66 metres (12 feet) plus 21/2 per cent of the breadth of the ship above the deepest subdivision load line, the deadlights may be portable in passenger accommodation other than that for steerage passengers, unless the deadlights are required by the International Convention respecting
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International Convention for the Safety of Life at Sea

Load Lines⁴ in force to be permanently attached in their proper positions. Such portable deadlights shall be stowed adjacent to the sidescuttles they serve.

- (e) Sidescuttles and their deadlights, which will not be accessible during navigation, shall be closed and secured before the ship leaves port.
- (f)
 - (i) No sidescuttles shall be fitted in any spaces which are appropriated exclusively to the carriage of cargo or coal.
 - (ii) Sidescuttles may, however, be fitted in spaces appropriated alternatively to the carriage of cargo or passengers, but they shall be of such construction as will effectively prevent any person opening them or their deadlights without the consent of the master of the ship.
 - (iii) If cargo is carried in such spaces, the sidescuttles and their deadlights shall be closed watertight and locked before the cargo is shipped and such closing and locking shall be recorded in such log books as may be prescribed by the Administration.
- (g) Automatic ventilating sidescuttles shall not be fitted in the shell plating below the margin line without the special sanction of the Administration.
- (h) The number of scuppers, sanitary discharges and other similar openings in the shell plating shall be reduced to the minimum either by making each discharge serve for as many as possible of the sanitary and other pipes, or in any other satisfactory manner.
- (i)
 - (i) All inlets and discharges in the shell plating shall be fitted with efficient and accessible arrangements for preventing the accidental admission of water into the ship. Lead or other heat sensitive materials shall not be used for pipes fitted outboard of shell valves in inlets or discharges, or any other application where the deterioration of such pipes in the event of fire would give rise to danger of flooding.
 - (ii)
 - (1) Except as provided in sub-paragraph (iii) of this paragraph, each separate discharge led through the shell plating from spaces below the margin line shall be provided either with one automatic non-return valve fitted with a positive means of closing it from above the bulkhead deck, or, alternatively, with two automatic non-return valves without such means, the upper of which is so situated above the deepest subdivision load line as to be always accessible for examination under service conditions, and is of a type which is normally closed.

⁴ See "International Convention on Load Lines, 1966, done at London on 5 April 1966" in United Nations, *Treaty Series*, vol. 640, p. 133

- (2) Where a valve with positive means of closing is fitted, the operating position above the bulkhead deck shall always be readily accessible, and means shall be provided for indicating whether the valve is open or closed.
- (iii) Main and auxiliary sea inlets and discharges in connexion with machinery shall be fitted with readily accessible cocks or valves between the pipes and shell plating or between the pipes and fabricated boxes attached to the shell plating.
- (j)
- (i) Gangway, cargo and coaling ports fitted below the margin line shall be of sufficient strength. They shall be effectively closed and secured watertight before the ship leaves port, and shall be kept closed during navigation.
- (ii) Such ports shall be in no case fitted so as to have their lowest point below the deepest subdivision load line.
- (k)
- (i) The inboard opening of each ash-shoot, rubbish-shoot, *etc.* shall be fitted with an efficient cover.
- (ii) If the inboard opening is situated below the margin line, the cover shall be watertight, and in addition an automatic non-return valve shall be fitted in the shoot in an easily accessible position above the deepest subdivision load line. When the shoot is not in use both the cover and the valve shall be kept closed and secured.

Regulation 15

Construction and Initial Tests of Watertight Doors, Sidescuttles, etc.

- (a)
- (i) The design, materials and construction of all watertight doors, sidescuttles, gangway, cargo and coaling ports, valves, pipes, ash-shoots and rubbish-shoots referred to in these Regulations shall be to the satisfaction of the Administration.
- (ii) The frames of vertical watertight doors shall have no groove at the bottom in which dirt might lodge and prevent the door closing properly.
- (iii) All cocks and valves for sea inlets and discharges below the bulkhead deck and all fittings outboard of such cocks and valves shall be made of steel, bronze or other approved ductile material. Ordinary cast iron or similar materials shall not be used.
- (b) Each watertight door shall be tested by water pressure to a head up to the bulkhead deck. The test shall be made before the ship is put in service, either before or after the door is fitted.
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Regulation 16
Construction and Initial Tests of Watertight Decks, Trunks, etc.

- (a) Watertight decks, trunks, tunnels, duct keels and ventilators shall be of the same strength as watertight bulkheads at corresponding levels. The means used for making them watertight, and the arrangements adopted for closing openings in them, shall be to the satisfaction of the Administration. Watertight ventilators and trunks shall be carried at least up to the bulkhead deck.
- (b) After completion, a hose or flooding test shall be applied to watertight decks and a hose test to watertight trunks, tunnels and ventilators.

Regulation 17
Watertight Integrity Above the Margin Line

- (a) The Administration may require that all reasonable and practicable measures shall be taken to limit the entry and spread of water above the bulkhead deck. Such measures may include partial bulkheads or webs. When partial watertight bulkheads and webs are fitted on the bulkhead deck, above or in the immediate vicinity of main subdivision bulkheads, they shall have watertight shell and bulkhead deck connexions so as to restrict the flow of water along the deck when the ship is in a heeled damaged condition. Where the partial watertight bulkhead does not line up with the bulkhead below, the bulkhead deck between shall be made effectively watertight.
- (b) The bulkhead deck or a deck above it shall be weathertight in the sense that in ordinary sea conditions water will not penetrate in a downward direction. All openings in the exposed weather deck shall have coamings of ample height and strength and shall be provided with efficient means for expeditiously closing them weathertight. Freeing ports, open rails and/or scuppers shall be fitted as necessary for rapidly clearing the weather deck of water under all weather conditions.
- (c) Sidescuttles, gangway, cargo and coaling ports and other means for closing openings in the shell plating above the margin line shall be of efficient design and construction and of sufficient strength having regard to the spaces in which they are fitted and their positions relative to the deepest subdivision load line.
- (d) Efficient inside deadlights, arranged so that they can be easily and effectively closed and secured watertight, shall be provided for all sidescuttles to spaces below the first deck above the bulkhead deck.

Regulation 18
Bilge Pumping Arrangements in Passenger Ships

- (a) Ships shall be provided with an efficient bilge pumping plant capable of pumping from and draining any watertight compartment which is neither a permanent oil compartment nor a permanent water compartment under all practicable conditions after a casualty whether the ship is upright or listed. For this purpose, wing suction will generally be necessary except in narrow compartments at the ends of the ship where one suction may be sufficient. In compartments of unusual form, additional suction may be required. Arrangements shall be made whereby water in the compartment may find its way to the suction pipes. Where in relation to particular compartments the Administration is satisfied that the provision of drainage may be undesirable, it may allow such provision to be dispensed with if calculations made in accordance with the conditions laid down in paragraph (b) of Regulation 7 of this Chapter show that the safety of the ship will not be impaired. Efficient means shall be provided for draining water from insulated holds.
- (b)
- (i) Ships shall have at least three power pumps connected to the bilge main, one of which may be attached to the propelling unit. Where the criterion numeral is 30 or more, one additional independent power pump shall be provided.

(ii) The requirements are summarized in the following table:

<i>Criterion Numeral</i>	<i>Less than 30</i>	<i>30 and over</i>
Main Engine Pump (may be replaced by one independent pump)	1	1
Independent Pumps	2	3

- (iii) Sanitary, ballast and general service pumps may be accepted as independent power bilge pumps if fitted with the necessary connections to the bilge pumping system.
- (c) Where practicable, the power bilge pumps shall be placed in separate watertight compartments so arranged or situated that these compartments will not readily be flooded by the same damage. If the engines and boilers are in two or more watertight compartments, the pumps available for bilge service shall be distributed throughout these compartments as far as is possible.
- (d) On ships 91.5 metres (300 feet) or more in length or having a criterion numeral of 30 or more, the arrangements shall be such that at least one power pump shall be available for use in all ordinary circumstances in which a ship may be flooded at sea. This requirement will be satisfied if:
- (i) one of the required pumps is an emergency pump of a reliable submersible type having a source of power situated above the bulkhead deck; or

- (ii) the pumps and their sources of power are so disposed throughout the length of the ship that under any condition of flooding which the ship is required to withstand, at least one pump in an undamaged compartment will be available.
- (e) With the exception of additional pumps which may be provided for peak compartments only, each required bilge pump shall be arranged to draw water from any space required to be drained by paragraph (a) of this Regulation.
- (f)
 - (i) Each power bilge pump shall be capable of giving a speed of water through the required main bilge pipe of not less than 122 metres (400 feet) per minute. Independent power bilge pumps situated in machinery spaces shall have direct suction from these spaces, except that not more than two such suction shall be required in any one space. Where two or more such suction are provided there shall be at least one on the port side and one on the starboard side. The Administration may require independent power bilge pumps situated in other spaces to have separate direct suction. Direct suction shall be suitably arranged and those in a machinery space shall be of a diameter not less than that required for the bilge main.
 - (ii) In coal-burning ships there shall be provided in the stokehold, in addition to the other suction required by this Regulation, a flexible suction hose of suitable diameter and sufficient length, capable of being connected to the suction side of an independent power pump.
- (g)
 - (i) In addition to the direct bilge suction or suction required by paragraph (f) of this Regulation there shall be in the machinery space a direct suction from the main circulating pump leading to the drainage level of the machinery space and fitted with a non-return valve. The diameter of this direct suction pipe shall be at least two-thirds of the diameter of the pump inlet in the case of steamships, and of the same diameter as the pump inlet in the case of motorships.
 - (ii) Where in the opinion of the Administration the main circulating pump is not suitable for this purpose, a direct emergency bilge suction shall be led from the largest available independent power driven pump to the drainage level of the machinery space; the suction shall be of the same diameter as the main inlet of the pump used. The capacity of the pump so connected shall exceed that of a required bilge pump by an amount satisfactory to the Administration.
 - (iii) The spindles of the sea inlet and direct suction valves shall extend well above the engine room platform.
 - (iv) Where the fuel is, or may be, coal and there is no watertight bulkhead between the engines and the boilers, a direct discharge overboard or alternatively a by-pass to the

circulating pump discharge, shall be fitted from any circulating pump used in compliance with sub-paragraph (i) of this paragraph.

- (h)
- (i) All pipes from the pumps which are required for draining cargo or machinery spaces shall be entirely distinct from pipes which may be used for filling or emptying spaces where water or oil is carried.
 - (ii) All bilge pipes used in or under coal bunkers or fuel storage tanks or in boiler or machinery spaces, including spaces in which oil-settling tanks or oil fuel pumping units are situated, shall be of steel or other approved material.
- (i) The diameter of the bilge main shall be calculated according to the following formulae provided that the actual internal diameter of the bilge main may be of the nearest standard size acceptable to the Administration.

$$d = 1.68 \sqrt{L(B + D)} + 25$$

where:

- d = internal diameter of the bilge main in millimetres,
- L and B are the length and the breadth of the ship in metres, as defined in Regulation 2 of this Chapter, and
- D = moulded depth of the ship to bulkhead deck in metres;

or

$$d = \sqrt{\frac{L(B + D)}{2500}} + 1$$

where:

- d = internal diameter of the bilge main in inches,
- L and B are the length and the breadth of the ship in feet, as defined in Regulation 2 of this Chapter, and
- D = moulded depth of the ship to bulkhead deck in feet.

The diameter of the bilge branch pipes shall be determined by rules to be made by the Administration.

- (j) The arrangement of the bilge and ballast pumping system shall be such as to prevent the possibility of water passing from the sea and from water ballast spaces into the cargo and machinery spaces, or from one compartment to another. Special provision shall be made to prevent any deep tank having bilge and ballast connexions being inadvertently run up from the sea when containing cargo, or pumped out through a bilge pipe when containing water ballast.

- (k) Provision shall be made to prevent the compartment served by any bilge suction pipe being flooded in the event of the pipe being severed, or otherwise damaged by collision or grounding in any other compartment. For this purpose, where the pipe is at any part situated nearer the side of the ship than one-fifth the breadth of the ship (measured at right angles to the centre line at the level of the deepest subdivision load line), or in a duct keel, a non-return valve shall be fitted to the pipe in the compartment containing the open end.
- (l) All the distribution boxes, cocks and valves in connexion with the bilge pumping arrangements shall be in positions which are accessible at all times under ordinary circumstances. They shall be so arranged that, in the event of flooding, one of the bilge pumps may be operative on any compartment; in addition, damage to a pump or its pipe connecting to the bilge main outboard of a line drawn at one-fifth of the breadth of the ship shall not put the bilge system out of action. If there is only one system of pipes common to all the pumps, the necessary cocks or valves for controlling the bilge suction must be capable of being operated from above the bulkhead deck. Where in addition to the main bilge pumping system an emergency bilge pumping system is provided, it shall be independent of the main system and so arranged that a pump is capable of operating on any compartment under flooding conditions; in that case only the cocks and valves necessary for the operation of the emergency system need be capable of being operated from above the bulkhead deck.
- (m) All cocks and valves mentioned in paragraph (l) of this Regulation which can be operated from above the bulkhead deck shall have their controls at their place of operation clearly marked and provided with means to indicate whether they are open or closed.

Regulation 19
Stability Information for Passenger Ships and Cargo Ships⁵

- (a) Every passenger ship and cargo ship shall be inclined upon its completion and the elements of its stability determined. The master shall be supplied with such reliable information as is necessary to enable him by rapid and simple processes to obtain accurate guidance as to the stability of the ship under varying conditions of service, and a copy shall be furnished to the Administration.
- (b) Where any alterations are made to a ship so as to materially affect the stability information supplied to the master, amended stability information shall be provided. If necessary the ship shall be re-inclined.
- (c) The Administration may allow the inclining test of an individual ship to be dispensed with provided basic stability data are available from the inclining test of a sister ship and

⁵ Reference is made to the Recommendation on Intact Stability for Passenger and Cargo Ships under 100 metres in length, adopted by the Organization by Resolution A. 167(ES.IV) and Amendments to this Recommendation, adopted by the Organization by Resolution A.206(VH)

it is shown to the satisfaction of the Administration that reliable stability information for the exempted ship can be obtained from such basic data.

- (d) The Administration may also allow the inclining test of an individual ship or class of ships, especially designed for the carriage of liquids or ore in bulk, to be dispensed with when reference to existing data for similar ships clearly indicates that due to the ship's proportions and arrangements more than sufficient metacentric height will be available in all probable loading conditions.

Regulation 20
Damage Control Plans

There shall be permanently exhibited, for the guidance of the officer in charge of the ship, plans showing clearly for each deck and hold the boundaries of the watertight compartments, the openings therein with the means of closure and position of any controls thereof, and the arrangements for the correction of any list due to flooding. In addition, booklets containing the aforementioned information shall be made available to the officers of the ship.

Regulation 21
Marking, Periodical Operation and Inspection of Watertight Doors, etc.

- (a) This Regulation applies to new and existing ships.
- (b) Drills for the operating of watertight doors, sidescuttles, valves and closing mechanisms of scuppers, ash-shoots and rubbish-shoots shall take place weekly. In ships in which the voyage exceeds one week in duration a complete drill shall be held before leaving port, and others thereafter at least once a week during the voyage. In all ships all watertight power doors and hinged doors, in main transverse bulkheads, in use at sea, shall be operated daily.
- (c)
- (i) The watertight doors and all mechanisms and indicators connected therewith, all valves the closing of which is necessary to make a compartment watertight, and all valves the operation of which is necessary for damage control cross connexions shall be periodically inspected at sea at least once a week.
- (ii) Such valves, doors and mechanisms shall be suitably marked to ensure that they may be properly used to provide maximum safety.

Regulation 22
Entries in Log

- (a) This Regulation applies to new and existing ships.
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- (b) Hinged doors, portable plates, sidescuttles, gangway, cargo and coaling ports and other openings, which are required by these Regulations to be kept closed during navigation, shall be closed before the ship leaves port. The time of closing and the time of opening (if permissible under these Regulations) shall be recorded in such log book as may be prescribed by the Administration.
- (c) A record of all drills and inspections required by Regulation 21 of this Chapter shall be entered in the log book with an explicit record of any defects which may be disclosed.

PART C
MACHINERY AND ELECTRICAL INSTALLATIONS⁶

(Part C applies to passenger ships and cargo ships)

Regulation 23
General

- (a) Electrical installations in passenger ships shall be such that:
 - (i) services essential for safety will be maintained under various emergency conditions; and
 - (ii) the safety of passengers, crew and ship from electrical hazards will be assured.
- (b) Cargo ships shall comply with Regulations 26, 27, 28, 29, 30 and 32 of this Chapter.

Regulation 24
Main Source of Electrical Power in Passenger Ships

- (a) Every passenger ship, the electrical power of which constitutes the only means of maintaining the auxiliary services indispensable for the propulsion and the safety of the ship, shall be provided with at least two main generating sets. The power of these sets shall be such that it shall still be possible to ensure the functioning of the services referred to in sub-paragraph (a)(i) of Regulation 23 of this Chapter in the event of any one of these generating sets being stopped.
- (b) In a passenger ship where there is only one main generating station, the main switchboard shall be located in the same main fire zone. Where there is more than one main generating station, it is permissible to have only one main switchboard.

⁶ Reference is made to the Recommendation on Safety Measures for Periodically Unattended Machinery Spaces of Cargo Ships additional to those normally considered necessary for an Attended Machinery Space, adopted by the Organization by Resolution A.211 (VII).

Regulation 25
Emergency Source of Electrical Power in Passenger Ships

- (a) There shall be above the bulkhead deck and outside the machinery casings a self-contained emergency source of electrical power. Its location in relation to the main source or sources of electrical power shall be such as to ensure to the satisfaction of the Administration that a fire or other casualty to the machinery space as defined in paragraph (h) of Regulation 2 of this Chapter will not interfere with the supply or distribution of emergency power. It shall not be forward of the collision bulkhead.
- (b) The power available shall be sufficient to supply all those services that are, in the opinion of the Administration, necessary for the safety of the passengers and the crew in an emergency, due regard being paid to such services as may have to be operated simultaneously. Special consideration shall be given to emergency lighting at every boat station on deck and oversides, in all alleyways, stairways and exits, in the machinery spaces and in the control stations as defined in paragraph (r) of Regulation 3 of Chapter II-2, to the sprinkler pump, to navigation lights, and to the daylight signalling lamp if operated from the main source of power. The power shall be adequate for a period of 36 hours, except that, in the case of ships engaged regularly on voyages of short duration, the Administration may accept a lesser supply if satisfied that the same standard of safety would be attained.
- (c) The emergency source of power may be either:
- (i) a generator driven by a suitable prime-mover with an independent fuel supply and with approved starting arrangements; the fuel used shall have a flashpoint of not less than 43deg.C (110deg.F); or
 - (ii) an accumulator (storage) battery capable of carrying the emergency load without recharging or excessive voltage drop.
- (d)
- (i) Where the emergency source of power is a generator there shall be provided a temporary source of emergency power consisting of an accumulator battery of sufficient capacity:
 - (1) to supply emergency lighting continuously for half an hour;
 - (2) to close the watertight doors (if electrically operated) but not necessarily to close them all simultaneously;
 - (3) to operate the indicators (if electrically operated) which show whether power-operated watertight doors are open or closed; and

(4) to operate the sound signals (if electrically operated) which give warning that power-operated watertight doors are about to close.

The arrangements shall be such that the temporary source of emergency power will come into operation automatically in the event of failure of the main electrical supply.

- (ii) Where the emergency source of power is an accumulator battery, arrangements shall be made to ensure that emergency lighting will automatically come into operation in the event of failure of the main lighting supply.
- (e) An indicator shall be mounted in the machinery space, preferably on the main switchboard, to indicate when any accumulator battery fitted in accordance with this Regulation is being discharged.
- (f)
 - (i) The emergency switchboard shall be installed as near as is practicable to the emergency source of power.
 - (ii) Where the emergency source of power is a generator, the emergency switchboard shall be located in the same space as the emergency source of power, unless the operation of the emergency switchboard would thereby be impaired.
 - (iii) No accumulator battery fitted in accordance with this Regulation shall be installed in the same space as the emergency switchboard.
 - (iv) The Administration may permit the emergency switchboard to be supplied from the main switchboard in normal operation.
- (g) Arrangements shall be such that the complete emergency installation will function when the ship is inclined 22½ degrees and/or when the trim of the ship is 10 degrees.
- (h) Provision shall be made for the periodic testing of the emergency source of power and the temporary source of power, if provided, which shall include the testing of automatic arrangements.

Regulation 26
Emergency Source of Electrical Power in Cargo Ships

- (a) Cargo ships of 5,000 tons gross tonnage and upwards
 - (i) In cargo ships of 5,000 tons gross tonnage and upwards there shall be a self-contained emergency source of power, located to the satisfaction of the Administration above the uppermost continuous deck and outside the machinery casings, to ensure its functioning in the event of fire or other casualty causing failure to the main electrical installation.
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(ii) The power available shall be sufficient to supply all those services which are, in the opinion of the Administration, necessary for the safety of all on board in an emergency, due regard being paid to such services as may have to be operated simultaneously. Special consideration shall be given to:

- (1) emergency lighting at every boat station on deck and oversides, in all alleyways, stairways and exits, in the main machinery space and main generating set space, on the navigating bridge and in the chartroom;
- (2) the general alarm; and
- (3) navigation lights if solely electric, and the daylight signalling lamp if operated by the main source of electrical power.

The power shall be adequate for a period of 6 hours.

(iii) The emergency source of power may be either:

- (1) an accumulator (storage) battery capable of carrying the emergency load without recharging or excessive voltage drop; or
- (2) a generator driven by a suitable prime-mover with an independent fuel supply and with starting arrangements to the satisfaction of the Administration. The fuel used shall have a flashpoint of not less than 43deg.C (110deg.F).

(iv) Arrangements shall be such that the complete emergency installation will function when the ship is inclined 22½ degrees and/or when the trim of the ship is 10 degrees.

(v) Provision shall be made for the periodic testing of the complete emergency installation.

(b) Cargo ships of less than 5,000 tons gross tonnage

(i) In cargo ships of less than 5,000 tons gross tonnage there shall be a self-contained emergency source of power located to the satisfaction of the Administration, and capable of supplying the illumination at launching stations and stowage positions of survival craft prescribed in sub-paragraphs (a)(ii), (b)(ii) and (b)(iii) of Regulation 19 of Chapter III, and in addition such other services as the Administration may require, due regard being paid to Regulation 38 of Chapter III.

(ii) The power available shall be adequate for a period of at least 3 hours.

(iii) These ships shall also be subject to sub-paragraphs (iii), (iv), and (v) of paragraph (a) of this Regulation.

Regulation 27
Precautions Against Shock, Fire and Other Hazards of Electrical Origin

- (a) Passenger ships and cargo ships;
- (i)
- (1) All exposed metal parts of electrical machines or equipment which are not intended to be "live" but are liable to become "live" under fault conditions, shall be earthed (grounded); and all electrical apparatus shall be so constructed and so installed that danger of injury in ordinary handling shall not exist.
- (2) Metal frames of all portable electric lamps, tools and similar apparatus, supplied as ship's equipment and rated in excess of a safety voltage to be prescribed by the Administration shall be earthed (grounded) through a suitable conductor, unless equivalent provisions are made such as by double insulation or by an isolating transformer. The Administration may require additional special precautions for electric lamps, tools or similar apparatus for use in damp spaces.
- (ii) Main and emergency switchboards shall be so arranged as to give easy access back and front, without danger to attendants. The sides and backs and, where necessary, the fronts of switchboards shall be suitably guarded. There shall be non-conducting mats or gratings front and rear where necessary. Exposed current-carrying parts at voltages to earth (ground) exceeding a voltage to be specified by the Administration shall not be installed on the face of any switchboard or control panel.
- (iii)
- (i) Where the hull return system of distribution is used, special precautions shall be taken to the satisfaction of the Administration.
- (ii) Hull return shall not be used in tankers.
- (iv)
- (1) All metal sheaths and armour of cables shall be electrically continuous and shall be earthed (grounded).
- (2) Where the cables are neither sheathed nor armoured and there might be a risk of fire in the event of an electrical fault, precautions shall be required by the Administration.
- (v) Lighting fittings shall be arranged to prevent temperature rises that would be injurious to the wiring, and to prevent surrounding material from becoming excessively hot.
- (vi) Wiring shall be supported in such a manner as to avoid chafing or other injury.
- (vii) Each separate circuit shall be protected against short circuit. Each separate circuit shall also be protected against overload, except in accordance with Regulation 30 of
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this Chapter or where the Administration grants an exemption. The current-carrying capacity of each circuit shall be permanently indicated, together with the rating or setting of the appropriate overload protective device.

- (viii) Accumulator batteries shall be suitably housed, and compartments used primarily for their accommodation shall be properly constructed and efficiently ventilated.
- (b) Passenger ships only;
- (i) Distribution systems shall be so arranged that fire in any main fire zone will not interfere with essential services in any other main fire zone. This requirement will be met if main and emergency feeders passing through any zone are separated both vertically and horizontally as widely as is practicable.
- (ii) Electric cables shall be of a flame retarding type to the satisfaction of the Administration. The Administration may require additional safeguards for electric cables in particular spaces of the ship with a view to the prevention of fire or explosion.
- (iii) In spaces where inflammable mixtures are liable to collect, no electrical equipment shall be installed unless it is of a type which will not ignite the mixture concerned, such as flameproof (explosion proof) equipment.
- (iv) A lighting circuit in a bunker or hold shall be provided with an isolating switch outside the space.
- (v) Joints in all conductors except for low voltage communication circuits shall be made only in junction or outlet boxes. All such boxes or wiring devices shall be so constructed as to prevent the spread of fire from the box or device. Where splicing is employed it shall only be by an approved method such that it retains the original mechanical and electrical properties of the cable.
- (vi) Wiring systems for interior communications essential for safety and for emergency alarm systems shall be arranged to avoid galleys, machinery spaces and other enclosed spaces having a high risk of fire except in so far as it is necessary to provide communication or to give alarm within those spaces. In the case of ships the construction and small size of which do not permit of compliance with these requirements, measures satisfactory to the Administration shall be taken to ensure efficient protection for these wiring systems where they pass through galleys, machinery spaces and other enclosed spaces having a high risk of fire.
- (c) Cargo ships only. Devices liable to arc shall not be installed in any compartment assigned principally to accumulator batteries unless the devices are flameproof (explosion proof).
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Regulation 28
Means of Going Astern

- (a) *Passenger ships and cargo ships.* Ships shall have sufficient power for going astern to secure proper control of the ship in all normal circumstances.
- (b) *Passenger ships only.* The ability of the machinery to reverse the direction of thrust of the propeller in sufficient time, under normal manoeuvring conditions, and so to bring the ship to rest from maximum ahead service speed shall be demonstrated at the initial survey.

Regulation 29
Steering Gear⁷

- (a) *Passenger ships and cargo ships*
- (i) Ships shall be provided with a main steering gear and an auxiliary steering gear to the satisfaction of the Administration.
- (ii) The main steering gear shall be of adequate strength and sufficient to steer the ship at maximum service speed. The main steering gear and rudder stock shall be so designed that they are not damaged at maximum astern speed.
- (iii) The auxiliary steering gear shall be of adequate strength and sufficient to steer the ship at navigable speed and capable of being brought speedily into action in an emergency.
- (iv) The exact position of the rudder, if power operated, shall be indicated at the principal steering station.
- (b) *Passenger ships only*
- (i) The main steering gear shall be capable of putting the rudder over from 35 degrees on one side to 35 degrees on the other side with the ship running ahead at maximum service speed. The rudder shall be capable of being put over from 35 degrees on either side to 30 degrees on the other side in 28 seconds at maximum service speed.
- (ii) The auxiliary steering gear shall be operated by power in any case in which the Administration would require a rudder stock of over 228.6 millimetres (9 inches) diameter in way of the tiller.

⁷ Reference is made to the Recommendation on Steering Gear for Large Ships, adopted by the Organization by Resolution A.2KKVII).

- (iii) Where main steering gear power units and their connexions are fitted in duplicate to the satisfaction of the Administration, and each power unit enables the steering gear to meet the requirements of sub-paragraph (i) of this paragraph, no auxiliary steering gear need be required.
- (iv) Where the Administration would require a rudder stock with a diameter in way of the tiller exceeding 228.6 millimetres (9 inches) there shall be provided an alternative steering station located to the satisfaction of the Administration. The remote steering control systems from the principal and alternative steering stations shall be so arranged to the satisfaction of the Administration that failure of either system would not result in inability to steer the ship by means of the other system.
- (v) means satisfactory to the Administration shall be provided to enable orders to be transmitted from the bridge to the alternative steering station.
- (c) *Cargo ships only*
- (i) The auxiliary steering gear shall be operated by power in any case in which the Administration would require a rudder stock of over 355.6 millimetres (14 inches) diameter in way of the tiller.
- (ii) Where power-operated steering gear units and connexions are fitted in duplicate to the satisfaction of the Administration, and each unit complies with sub-paragraph (iii) of paragraph (a) of this Regulation, no auxiliary steering gear need be required, provided that the duplicate units and connexions operating together comply with sub-paragraph (ii) of paragraph (a) of this Regulation.

Regulation 30
Electric and Electrohydraulic Steering Gear⁸

- (a) *Passenger ships and cargo ships.* Indicators for running indication of the motors of electric and electrohydraulic steering gear shall be installed in a suitable location to the satisfaction of the Administration.
- (b) *All passenger ships (irrespective of tonnage) and cargo ships of 5,000 tons gross tonnage and upwards.*
- (i) Electric and electrohydraulic steering gear shall be served by two circuits fed from the main switchboard. One of the circuits may pass through the emergency switchboard, if provided. Each circuit shall have adequate capacity for supplying all the motors which are normally connected to it and which operate simultaneously. If transfer arrangements are provided in the steering gear room to permit either circuit to supply any motor or combination of motors, the capacity of each circuit shall be adequate for

⁸ Reference is made to the Recommendation on Steering Gear for Large Ships, adopted by the Organization by Resolution A.210(VH).

the most severe load condition. The circuits shall be separated throughout their length as widely as is practicable.

(ii) Short circuit protection only shall be provided for these circuits and motors.

(c) *Cargo ships of less than 5,000 tons gross tonnage*

(i) Cargo ships in which electrical power is the sole source of power for both main and auxiliary steering gear shall comply with sub-paragraphs (i) and (ii) of paragraph (b) of this Regulation, except that if the auxiliary steering gear is powered by a motor primarily intended for other services, paragraph (b)(ii) may be waived, provided that the Administration is satisfied with the protection arrangements.

(ii) Short circuit protection only shall be provided for motors and power circuits of electrically or electrohydraulically operated main steering gear.

Regulation 31

Location of Emergency Installations in Passenger Ships

The emergency source of electrical power, emergency fire pumps, emergency bilge pumps, batteries of carbon dioxide bottles for fire extinguishing purposes and other emergency installations which are essential for the safety of the ship shall not be installed in a passenger ship forward of the collision bulkhead.

Regulation 32

Communication between Bridge and Engine Room

Ships shall be fitted with two means of communicating orders from the bridge to the engine room. One means shall be an engine room telegraph.

**CHAPTER II-2
CONSTRUCTION - FIRE PROTECTION, FIRE DETECTION AND FIRE
EXTINCTION**

**PART A
GENERAL⁹**

**Regulation 1
Application**

- (a) For the purpose of this Chapter:
- (i) A new passenger ship is a passenger ship the keel of which is laid or which is at a similar stage of construction on or after the date of coming into force of the present Convention, or a cargo ship which is converted to a passenger ship on or after that date, all other passenger ships being considered as existing ships.
 - (ii) A new cargo ship is a cargo ship the keel of which is laid or which is at a similar stage of construction on or after the date of coming into force of the present Convention.
 - (iii) A ship which undergoes repairs, alterations, modifications and outfitting related thereto shall continue to comply with at least the requirements previously applicable to the ship. An existing ship in such a case shall not as a rule comply to a lesser extent with the requirements for a new ship than it did before. Repairs, alterations and modifications of a major character and outfitting related thereto should meet the requirements for a new ship in so far as the Administration deems reasonable and practicable.
- (b) Unless expressly provided otherwise:
- 1) Regulations 4 to 16 of Part A of this Chapter apply to new ships.
 - 2) Part B of this Chapter applies to new passenger ships carrying more than 36 passengers.
 - 3) Part C of this Chapter applies to new passenger ships carrying not more than 36 passengers.
 - 4) Part D of this Chapter applies to new cargo ships.

⁹ Reference is made to Recommendation on Safety Measures for Periodically Unattended Machinery Spaces of Cargo Ships additional to those normally considered necessary for an Attended Machinery Space, adopted by the Organization by Resolution A.211(VII).

- 5) Part E of this Chapter applies to new tankers.
- (c)
- (i) Part F of this Chapter applies to existing passenger ships carrying more than 36 passengers.
 - (ii) Existing passenger ships carrying not more than 36 passengers and existing cargo ships shall comply with the following:
 - (1) For ships the keels of which were laid or which were at a similar stage of construction on or after the date of coming into force of the International Convention for the Safety of Life at Sea, 1960, the Administration shall ensure that the requirements which were applied under Chapter II of that Convention to new ships as defined in that Chapter are complied with;
 - (2) For ships the keels of which were laid or which were at a similar stage of construction on or after the date of coming into force of the International Convention for the Safety of Life at Sea, 1948, but before the date of coming into force of the International Convention for the Safety of Life at Sea, 1960, the Administration shall ensure that the requirements which were applied under Chapter II of the 1948 Convention to new ships as defined in that Chapter are complied with;
 - (3) For ships the keels of which were laid or which were at a similar stage of construction before the date of coming into force of the International Convention for the Safety of Life at Sea, 1948, the Administration shall ensure that the requirements which were applied under Chapter II of that Convention to existing ships as defined in that Chapter are complied with.
- (d) For any existing ship as defined in the present Convention the Administration, in addition to applying the requirements of sub-paragraph (c)(i) of this Regulation, shall decide which of the requirements of this Chapter not contained in Chapter II of the 1948 and 1960 Conventions shall be applied.
- (e) The Administration may, if it considers that the sheltered nature and conditions of the voyage are such as to render the application of any specific requirements of this Chapter unreasonable or unnecessary, exempt from those requirements individual ships or classes of ships belonging to its country which, in the course of their voyage, do not proceed more than 20 miles from the nearest land.
- (f) In the case of passenger ships which are employed in special trades for the carriage of large numbers of special trade passengers, such as the pilgrim trade, the Administration, if satisfied that it is impracticable to enforce compliance with the requirements of this Chapter, may exempt such ships, when they belong to its country, from those requirements, provided that they comply fully with the provisions of:
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- (i) the Rules annexed to the Special Trade Passenger Ships Agreement, 1971, and
- (ii) the Rules annexed to the Protocol on Space Requirements for Special Trade Passenger Ships, 1973, when it comes into force.

Regulation 2
Basic Principles

The purpose of this Chapter is to require the fullest practicable degree of fire protection, fire detection and fire extinction in ships. The following basic principles underlie the Regulations in this Chapter and are embodied in the Regulations as appropriate, having regard to the type of ships and the potential fire hazard involved:

- (a) division of ship into main vertical zones by thermal and structural boundaries;
- (b) separation of accommodation spaces from the remainder of the ship by thermal and structural boundaries;
- (c) restricted use of combustibile materials;
- (d) detection of any fire in the zone of origin;
- (e) containment and extinction of any fire in the space of origin;
- (f) protection of means of escape or access for fire fighting;
- (g) ready availability of fire-extinguishing appliances;
- (h) minimization of possibility of ignition of inflammable cargo vapour.

Regulation 3
Definitions

For the purpose of this Chapter, unless expressly provided otherwise:

- a) "Non-combustible material" means a material which neither burns nor gives off inflammable vapours in sufficient quantity for self-ignition when heated to approximately 750deg.C (1,382 deg.F) this being determined to the satisfaction of the Administration by an established test procedure¹⁰. Any other material is a combustibile material.
- b) "A Standard Fire Test" is one in which specimens of the relevant bulkheads or decks are exposed in a test furnace to temperatures corresponding approximately to the standard time-temperature curve. The specimen shall have an exposed surface of not less than 4.65

¹⁰ Reference is made to Recommendation on Test Method for Qualifying Marine Construction Materials as Non-Combustible, adopted by the Organization by Resolution A.270(VHI).

square metres (50 square feet) and height (or length of deck) of 2.44 metres (8 feet) resembling as closely as possible the intended construction and including where appropriate at least one joint. The standard time-temperature curve is defined by a smooth curve drawn through the following points:

at the end of the first 5 minutes - 538deg.C (1,000deg.F)

at the end of the first 10 minutes - 704deg.C (1,300deg.F)

at the end of the first 30 minutes - 843deg.C (1,550deg.F)

at the end of the first 60 minutes - 927deg.C (1,700deg.F)

c) "'A' Class Division" are those divisions formed by bulkheads and decks which comply with the following:

(i) they shall be constructed of steel or other equivalent material;

(ii) they shall be suitably stiffened;

(iii) they shall be so constructed as to be capable of preventing the passage of smoke and flame to the end of the one-hour standard fire test;

(iv) they shall be insulated with approved non-combustible materials such that the average temperature of the unexposed side will not rise more than 139deg.C (250deg.F) above the original temperature, nor will the temperature, at any one point, including any joint, rise more than 180deg.C (325deg.F) above the original temperature, within the time listed below:

-Class "A-60", 60 minutes

-Class "A-30", 30 minutes

-Class "A-15", 15 minutes

-Class "A-0", 0 minute

(v) the Administration may require a test of a prototype bulkhead or deck to ensure that it meets the above requirements for integrity and temperature rise.¹¹

d) "'B' Class Divisions" are those divisions formed by bulkheads, decks, ceilings or linings which comply with the following:

(i) they shall be so constructed as to be capable of preventing the passage of flame to the end of the first one-half hour of the standard fire test;

(ii) they shall have an insulation value such that the average temperature of the unexposed side will not rise more than 139deg.C (250deg.F) above the original temperature, nor

¹¹ Reference is made to Recommendation for Fire Test Procedures for 'A' and 'B' Class Divisions, adopted by the Organization by Resolutions A.163(ES.IV) and A.215(VII).

will the temperature at any one point, including any joint, rise more than 225deg.C (405deg.F) above the original temperature, within the time listed below:

- Class "B-15", 15 minutes
- Class "B-0", 0 minutes

(iii) they shall be constructed of approved non-combustible materials and all materials entering into the construction and erection of 'B' Class divisions shall be non-combustible, except where in accordance with Parts C and D of this Chapter the use of combustible material is not precluded, in which case it shall comply with the temperature rise limitation specified in sub-paragraph (ii) of this paragraph up to the end of the first one-half hour of the standard fire test;

(iv) the Administration may require a test of a prototype division to ensure that it meets the above requirements for integrity and temperature rise.

- e) "'C' Class Divisions" shall be constructed of approved non-combustible materials. They need meet no requirements relative to the passage of smoke and flame nor the limiting of temperature rise.
 - f) "Continuous 'B' Class Ceilings or Linings" are those 'B' Class ceilings or linings which terminate only at an 'A' or 'B' Class division.
 - g) "*Steel or Other Equivalent Material*". Where the words "steel or other equivalent material" occur, "equivalent material" means any material which, by itself or due to insulation provided, has structural and integrity properties equivalent to steel at the end of the applicable fire exposure to the standard fire test (e.g. aluminium alloy with appropriate insulation).
 - h) "Low Flame Spread" means that the surface thus described will adequately restrict the spread of flame, this being determined to the satisfaction of the Administration by an established test procedure.
 - i) "Main Vertical Zones" are those sections into which the hull, superstructure, and deckhouses are divided by 'A' Class divisions, the mean length of which on any one deck does not in general exceed 40 metres (131 feet).
 - j) "Accommodation Spaces" are those used for public spaces, corridors, lavatories, cabins, offices, crew quarters, barber shops, isolated pantries and lockers and similar spaces.
 - k) "Public Spaces" are those portions of the accommodation which are used for halls, dining rooms, lounges and similar permanently enclosed spaces.
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BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

- l) "Service Spaces" are those used for galleys, main pantries, stores (except isolated pantries and lockers), mail and specie rooms, workshops other than those forming part of machinery spaces, and similar spaces and trunks to such spaces.
- m) "Cargo Spaces" are all spaces used for cargo (including cargo oil tanks) and trunks to such spaces.
- n) "Special Category Spaces" are those enclosed spaces above or below the bulkhead deck intended for the carriage of motor vehicles with fuel in their tanks for their own propulsion, into and from which such vehicles can be driven and to which passengers have access.
- o) "Machinery Spaces of Category A" are all spaces which contain:
- (i) internal combustion type machinery used either for main propulsion purposes, or for other purposes where such machinery has in the aggregate a total power output of not less than 373 kW, or
 - (ii) any oil-fired boiler or oil fuel unit; and trunks to such spaces.
- p) "Machinery Spaces" are all machinery spaces of Category A and all other spaces containing propelling machinery, boilers, oil fuel units, steam and internal combustion engines, generators and major electrical machinery, oil filling stations, refrigerating, stabilizing, ventilation and air conditioning machinery, and similar spaces; and trunks to such spaces.
- q) "Oil Fuel Unit" means the equipment used for the preparation of oil fuel for delivery to an oil-fired boiler, or equipment used for the preparation for delivery of heated oil to an internal combustion engine, and includes any oil pressure pumps, filters and heaters dealing with oil at a pressure more than 1.8 kilogrammes per square centimetre (25 pounds per square inch) gauge.
- r) "Control Stations" are those spaces in which the ship's radio or main navigating equipment or the emergency source of power is located or where the fire recording or fire control equipment is centralized.
- s) "Rooms containing Furniture and Furnishings of Restricted Fire Risk" are, for the purpose of Regulation 20 of this Chapter, those rooms containing furniture and furnishings of restricted fire risk (whether cabins, public spaces, offices or other types of accommodation) in which:
- (i) all case furniture such as desks, wardrobes, dressing tables, bureaux, dressers, is constructed entirely of approved non-combustible materials, except that a combustible veneer not exceeding 2 millimetres (1/12 inch) may be used on the working surface of such articles;
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- (ii) all free-standing furniture such as chairs, sofas, tables, is constructed with frames of non-combustible materials;
 - (iii) all draperies, curtains and other suspended textile materials have, to the satisfaction of the Administration, qualities of resistance to the propagation of flame not inferior to those of wool weighing 0.8 kilogrammes per square metre (24 ounces per square yard);
 - (iv) all floor coverings have, to the satisfaction of the Administration, qualities of resistance to the propagation of flame not inferior to those of an equivalent woollen material used for the same purpose; and
 - (v) all exposed surfaces of bulkheads, linings and ceilings have low flame-spread characteristics.
- t) "Bulkhead deck" is the uppermost deck up to which the transverse watertight bulkheads are carried.
 - u) "Deadweight" is the difference in metric tons between the displacement of a ship in water of a specific gravity of 1.025 at the load water line corresponding to the assigned summer freeboard and the lightweight of the ship.
 - v) "Lightweight" is the displacement of a ship in metric tons without cargo, fuel, lubricating oil, ballast water, fresh water and feedwater in tanks, consumable stores, together with passengers, and crew and their effects.
 - w) "Combination carrier" is a tanker designed to carry oil or alternatively solid cargoes in bulk.

Regulation 4 Fire Control Plans

There shall be permanently exhibited in all new and existing ships for the guidance of the ship's officers general arrangement plans showing clearly for each deck the control stations, the various fire sections enclosed by 'A' Class divisions, the sections enclosed by 'B' Class divisions (if any), together with particulars of the fire alarms, detecting systems, the sprinkler installation (if any), the fire extinguishing appliances, means of access to different compartments, decks, *etc.* and the ventilating system including particulars of the fan control positions, the position of dampers and identification numbers of the ventilating fans serving each section. Alternatively, at the discretion of the Administration, the aforementioned details may be set out in a booklet, a copy of which shall be supplied to each officer, and one copy at all times shall be available on board in an accessible position. Plans and booklets shall be kept up to date, any alterations being recorded thereon as soon as practicable. Description in such plans and booklets shall be in the national language. If the language is neither English nor French, a translation into one of those languages shall be included. In addition,

instructions concerning the maintenance and operation of all the equipment and installations on board for the fighting and containment of fire shall be kept under one cover, readily available in an accessible position.

Regulation 5
Fire Pumps, Fire Mains, Hydrants and Hoses

(a) *Total capacity of fire pumps*

- (i) In a passenger ship, the required fire pumps shall be capable of delivering for fire-fighting purposes a quantity of water, at the appropriate pressure prescribed below, not less than two-thirds of the quantity required to be dealt with by the bilge pumps when employed for bilge pumping.
- (ii) In a cargo ship, the required fire pumps, other than the emergency pump (if any), shall be capable of delivering for fire-fighting purposes a quantity of water, at the appropriate pressure prescribed, not less than four-thirds of the quantity required under Regulation 18 of Chapter II-1 to be dealt with by each of the independent bilge pumps in a passenger ship of the same dimensions when employed on bilge pumping, provided that in no cargo ship need the total required capacity of the fire pumps exceed 180 cubic metres per hour.

(b) *Fire pumps*

- (i) The fire pumps shall be independently driven. Sanitary, ballast, bilge or general service pumps may be accepted as fire pumps, provided that they are not normally used for pumping oil and that if they are subject to occasional duty for the transfer or pumping of fuel oil, suitable change-over arrangements are fitted.
- (ii)
 - (1) In passenger ships carrying more than 36 passengers, each of the required fire pumps shall have a capacity not less than 80 per cent of the total required capacity divided by the minimum number of required fire pumps and each such pump shall in any event be capable of delivering at least the two required jets of water. These fire pumps shall be capable of supplying the fire main system under the required conditions.

Where more pumps than the minimum of required pumps are installed the capacity of such additional pumps shall be to the satisfaction of the Administration.

- (2) In all other types of ships, each of the required fire pumps (other than any emergency pump required by Regulation 52 of this Chapter) shall have a capacity not less than 80 per cent of the total required capacity divided by the number of required fire pumps, and shall in any event be capable of delivering at least the

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

two required jets of water. These fire pumps shall be capable of supplying the fire main system under the required conditions.

Where more pumps than required are installed their capacity shall be to the satisfaction of the Administration.

(iii) Relief valves shall be provided in conjunction with all fire pumps if the pumps are capable of developing a pressure exceeding the design pressure of the water service pipes, hydrants and hoses. These valves shall be so placed and adjusted as to prevent excessive pressure in any part of the fire main system.

(c) *Pressure in the fire main*

- (i) The diameter of the fire main and water service pipes shall be sufficient for the effective distribution of the maximum required discharge from two fire pumps operating simultaneously, except that in the case of cargo ships the diameter need only be sufficient for the discharge of 140 cubic metres per hour.
- (ii) With the two pumps simultaneously delivering through nozzles specified in paragraph (g) of this Regulation the quantity of water specified in sub-paragraph (i) of this paragraph, through any adjacent hydrants, the following minimum pressures shall be maintained at all hydrants:

<i>Passenger Ships</i>	<i>Minimum Pressure</i>
4000 tons gross tonnage and upwards	3.2 kilogrammes per square centimeter (45 pounds per square inch)
1000 tons gross upwards but under 4000 tons gross tonnage	2.8 kilogrammes per square centimeter (40 pounds per square inch)
Under 1000 tons gross tonnage	To the satisfaction of the Administration

<i>Cargo Ships</i>	<i>Minimum Pressure</i>
6000 tons gross tonnage and upwards	2.8 kilogrammes per square centimeter (40 pounds per square inch)
1000 tons gross tonnage and upwards but under 6000 tons gross tonnage	2.6 kilogrammes per square centimeter (37 pounds per square inch)
Under 1000 tons gross tonnage	To the satisfaction of the Administration

- (d) *Number and position of hydrants.* The number and position of the hydrants shall be such that at least two jets of water not emanating from the same hydrant, one of which shall be from a single length of hose, may reach any part of the ship normally accessible to the passengers or crew while the ship is being navigated.
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(e) *Pipes and hydrants*

- (i) Materials readily rendered ineffective by heat shall not be used for fire mains and hydrants unless adequately protected. The pipes and hydrants shall be so placed that the fire hoses may be easily coupled to them. In ships where deck cargo may be carried, the positions of the hydrants shall be such that they are always readily accessible and the pipe shall be arranged as far as practicable to avoid risk of damage by such cargo. Unless there is provided one hose and nozzle for each hydrant in the ship, there shall be complete interchangeability of hose couplings and nozzles.
- (ii) A cock or valve shall be fitted to serve each fire hose so that any fire hose may be removed while the fire pumps are at work.

(f) *Fire hoses*

Fire hoses shall be of material approved by the Administration and sufficient in length to project a jet of water to any of the spaces in which they may be required to be used. Their maximum length shall be to the satisfaction of the Administration. Each hose shall be provided with a nozzle and the necessary couplings. Hoses specified in this Chapter as "fire hoses" shall together with any necessary fittings and tools be kept ready for use in conspicuous positions near the water service hydrants or connexions. Additionally in interior locations in passenger ships carrying more than 36 passengers, fire hoses shall be connected to the hydrants at all times.

(g) *Nozzles*

- (i) For the purposes of this Chapter, standard nozzle sizes shall be 12 millimetres (1/2 inch), 16 millimetres (5/8 inch) and 19 millimetres (3/4 inch) or as near thereto as possible. Larger diameter nozzles may be permitted at the discretion of the Administration.
- (ii) For accommodation and service spaces, a nozzle size greater than 12 millimetres (1/2 inch) need not be used.
- (iii) For machinery spaces and exterior locations, the nozzle size shall be such as to obtain the maximum discharge possible from two jets at the pressure mentioned in paragraph (c) of this Regulation from the smallest pump, provided that a nozzle size greater than 19 millimetres (3/4 inch) need not be used.
- (iv) For machinery spaces or in similar spaces where the risk of spillage of oil exists, the nozzles shall be suitable for spraying water on oil or alternatively shall be of a dual purpose type.

(h) *International shore connexion*

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

Standard dimensions of flanges for the international shore connexion required in this Chapter to be installed in the ship shall be in accordance with the following table:

<i>Description</i>	<i>Dimension</i>
Outside diameter	178 millimetres (7 inches)
Inner diameter	64 millimetres (2 ½ inches)
Bolt circle diameter	132 millimetres (5 ¼ inches)
Slots in flange	4 holes, 19 millimetres (¾ inch) in diameter equidistantly placed on a bolt circle of the above diameter, slotted to the flange periphery
Flange thickness	14.5 millimetres (9/16 inch) minimum
Bolts and nuts	4, each of 16 millimetres (5/8 inch) diameter, 50 millimetres (2 inches) in length

The connexion shall be constructed of material suitable for 10.5 kilogrammes per square centimetre (150 pounds per square inch) service. The flange shall have a flat face on one side and the other shall have permanently attached thereto a coupling that will fit the ship's hydrant and hose. The connexion shall be kept aboard the ship together with a gasket of any material suitable for 10.5 kilogrammes per square centimetre (150 pounds per square inch) service, together with four 16 millimetre (5/8 inch) bolts, 50 millimetres (2 inches) in length and eight washers.

Regulation 6
Miscellaneous Items

- (a) Electric radiators, if used, shall be fixed in position and so constructed as to reduce fire risks to a minimum. No such radiators shall be fitted with an element so exposed that clothing, curtains, or other similar materials can be scorched or set on fire by heat from the element.
- (b) Cellulose-nitrate based films shall not be used for cinematograph installations.

Regulation 7
Fire Extinguishers

- (a) All fire extinguishers shall be of approved types and designs.
 - (i) The capacity of required portable fluid extinguishers shall be not more than 13.5 litres (3 gallons) and not less than 9 litres (2 gallons). Other extinguishers shall not be in excess of the equivalent portability of the 13.5 litre (3 gallons) fluid extinguisher and shall not be less than the fire-extinguishing equivalent of a 9 litre (2 gallons) fluid extinguisher.
 - (ii) The Administration shall determine the equivalents of fire extinguishers.

- (b) Spare charges shall be provided in accordance with requirements to be specified by the Administration.
- (c) Fire extinguishers containing an extinguishing medium which, in the opinion of the Administration, either by itself or under expected conditions of use gives off toxic gases in such quantities as to endanger persons shall not be permitted.
- (d) A portable froth applicator unit shall consist of an inductor type of air-froth nozzle capable of being connected to the fire main by a fire hose, together with a portable tank containing at least 20 litres (4 1/2 gallons) of froth-making liquid and one spare tank. The nozzle shall be capable of producing effective froth suitable for extinguishing an oil fire, at the rate of at least 1.5 cubic metres (53 cubic feet) per minute.
- (e) Fire extinguishers shall be periodically examined and subjected to such tests as the Administration may require.
- (f) One of the portable fire extinguishers intended for use in any space shall be stowed near the entrance to that space.

Regulation 8
Fixed Gas Fire-Extinguishing Systems

- (a) The use of a fire-extinguishing medium which, in the opinion of the Administration, either by itself or under expected conditions of use gives off toxic gases in such quantities as to endanger persons shall not be permitted.
- (b) Where provision is made for the injection of gas for fire-extinguishing purposes, the necessary pipes for conveying the gas shall be provided with control valves or cocks so marked as to indicate clearly the compartments to which the pipes are led. Suitable provision shall be made to prevent inadvertent admission of the gas to any compartment. Where cargo spaces fitted with such a system for fire protection are used as passenger spaces the gas connexion shall be blanked during such use.
- (c) The piping shall be arranged so as to provide effective distribution of fire-extinguishing gas.
- (d)
 - (i) When carbon dioxide is used as the extinguishing medium in cargo spaces, the quantity of gas available shall be sufficient to give a minimum volume of free gas equal to 30 per cent of the gross volume of the largest cargo compartment in the ship which is capable of being sealed.

(ii) When carbon dioxide is used as an extinguishing medium for machinery spaces of Category A the quantity of gas carried shall be sufficient to give a minimum quantity of free gas equal to the larger of the following quantities, either:

- 1) 40 per cent of the gross volume of the largest space, the volume to include the casing up to the level at which the horizontal area of the casing is 40 per cent or less of the horizontal area of the space concerned taken midway between the tank top and the lowest part of the casing; or
- 2) 35 per cent of the entire volume of the largest space including the casing;

provided that the above-mentioned percentages may be reduced to 35 per cent and 30 per cent respectively for cargo ships of less than 2,000 tons gross tonnage; provided also that if two or more machinery spaces of Category A are not entirely separate they shall be considered as forming one compartment.

(iii) Where the volume of free air contained in air receivers in any machinery space of Category A is such that, if released in such space in the event of fire, such release of air within that space would seriously affect the efficiency of the fixed fire-extinguishing installation, the Administration shall require the provision of an additional quantity of carbon dioxide.

(iv) When carbon dioxide is used as an extinguishing medium both for cargo spaces and for machinery spaces of Category A the quantity of gas need not be more than the maximum required either for the largest cargo compartment or machinery space.

(v) For the purpose of this paragraph the volume of carbon dioxide shall be calculated at 0.56 cubic metres to the kilogramme (9 cubic feet to the pound).

(vi) When carbon dioxide is used as the extinguishing medium for machinery spaces of Category A the fixed piping system shall be such that 85 per cent of the gas can be discharged into the space within 2 minutes.

(vii) Carbon dioxide bottle storage rooms shall be situated at a safe and readily accessible position and shall be effectively ventilated to the satisfaction of the Administration. Any entrance to such storage rooms shall preferably be from the open deck, and in any case shall be independent of the protected space. Access doors shall be gastight and bulkheads and decks which form the boundaries of such rooms shall be gastight and adequately insulated.

(e)

(i) Where gas other than carbon dioxide or steam as permitted by paragraph (f) of this Regulation is produced on the ship and is used as an extinguishing medium, it shall be a gaseous product of fuel combustion in which the oxygen content, the carbon monoxide content, the corrosive elements and any solid combustible elements have been reduced to a permissible minimum.

- (ii) Where such gas is used as the extinguishing medium in a fixed fire-extinguishing system for the protection of machinery spaces of Category A it shall afford protection equivalent to that provided by a fixed carbon dioxide system.
- (iii) Where such gas is used as the extinguishing medium in a fixed fire-extinguishing system for the protection of cargo spaces a sufficient quantity of such gas shall be available to supply hourly a volume of free gas at least equal to 25 per cent of the gross volume of the largest compartment protected in this way for a period of 72 hours.
- (f) In general, the Administration shall not permit the use of steam as a fire-extinguishing medium in fixed fire-extinguishing systems of new ships. Where the use of steam is permitted by the Administration it shall be used only in restricted areas as an addition to the required fire-extinguishing medium and with the proviso that the boiler or boilers available for supplying steam shall have an evaporation of at least 1 kilogramme of steam per hour for each 0.75 cubic metres (1 pound of steam per hour per 12 cubic feet) of the gross volume of the largest space so protected. In addition to complying with the foregoing requirements the systems in all respects shall be as determined by, and to the satisfaction of the Administration.
- (g) Means shall be provided for automatically giving audible warning of the release of fire-extinguishing gas into any space to which personnel normally have access. The alarm shall operate for a suitable period before the gas is released.
- (h) The means of control of any such fixed gas fire-extinguishing system shall be readily accessible and simple to operate and shall be grouped together in as few locations as possible at positions not likely to be cut off by a fire in the protected space.

Regulation 9

Fixed Froth Fire-Extinguishing Systems in Machinery Spaces

- (a) Any required fixed froth fire-extinguishing system in machinery spaces shall be capable of discharging through fixed discharge outlets in not more than five minutes, a quantity of froth sufficient to cover to a depth of 150 millimetres (6 inches) the largest single area over which oil fuel is liable to spread. The system shall be capable of generating froth suitable for extinguishing oil fires. Means shall be provided for effective distribution of the froth through a permanent system of piping and control valves or cocks to suitable discharge outlets, and for the froth to be effectively directed by fixed sprayers on other main fire hazards in the protected space. The expansion ratio of the froth shall not exceed 12 to 1.
- (b) The means of control of any such systems shall be readily accessible and simple to operate and shall be grouped together in as few locations as possible at positions not likely to be cut off by a fire in the protected space.

Regulation 10

Fixed High Expansion Froth Fire-Extinguishing Systems in Machinery Spaces

- (a)
- (i) Any required fixed high expansion froth system in machinery spaces shall be capable of rapidly discharging through fixed discharge outlets a quantity of froth sufficient to fill the greatest space to be protected at a rate of at least 1 metre (3.3 feet) in depth per minute. The quantity of froth-forming liquid available shall be sufficient to produce a volume of froth equal to five times the volume of the largest space to be protected. The expansion ratio of the froth shall not exceed 1,000 to 1.
 - (ii) The Administration may permit alternative arrangements and discharge rates provided that it is satisfied that equivalent protection is achieved.
- (b) Supply ducts for delivering froth, air intakes to the froth generator and the number of froth-producing units shall in the opinion of the Administration be such as will provide effective froth production and distribution.
- (c) The arrangement of the froth generator delivery ducting shall be such that a fire in the protected space will not affect the froth-generating equipment.
- (d) The froth generator, its sources of power supply, froth-forming liquid and means of controlling the system shall be readily accessible and simple to operate and shall be grouped in as few locations as possible at positions not likely to be cut off by fire in the protected space.

Regulation 11

Fixed Pressure Water-Spraying Fire-Extinguishing Systems in Machinery Spaces

- (a) Any required fixed pressure water-spraying fire-extinguishing system in machinery spaces shall be provided with spraying nozzles of an approved type.
- (b) The number and arrangement of the nozzles shall be to the satisfaction of the Administration and be such as to ensure an effective average distribution of water of at least 5 litres per square metre (0.1 gallon per square foot) per minute in the spaces to be protected. Where increased application rates are considered necessary, these shall be to the satisfaction of the Administration. Nozzles shall be fitted above bilges, tank tops and other areas over which oil fuel is liable to spread and also above other specific fire hazards in the machinery spaces.
- (c) The system may be divided into sections, the distribution valves of which shall be operated from easily accessible positions outside the spaces to be protected and which will not be readily cut off by an outbreak of fire.

- (d) The system shall be kept charged at the necessary pressure and the pump supplying the water for the system shall be put automatically into action by a pressure drop in the system.
- (e) The pump shall be capable of simultaneously supplying at the necessary pressure all sections of the system in any one compartment to be protected. The pump and its controls shall be installed outside the space or spaces to be protected. It shall not be possible for a fire in the space or spaces protected by the water-spraying system to put the system out of action.
- (f) The pump may be driven by independent internal combustion type machinery but if it is dependent upon power being supplied from the emergency generator fitted in compliance with the provisions of Regulation 25 or Regulation 26 as appropriate of Chapter II-1 of the present Convention that generator shall be arranged to start automatically in case of main power failure so that power for the pump required by paragraph (e) of this Regulation is immediately available. When the pump is driven by independent internal combustion type machinery it shall be so situated that a fire in the protected space will not affect the air supply to the machinery.
- (g) Precautions shall be taken to prevent the nozzles from becoming clogged by impurities in the water or corrosion of piping, nozzles, valves and pump.

Regulation 12

Automatic Sprinkler and Fire Alarm and Fire Detection Systems

- (a)
 - (i) Any required automatic sprinkler and fire alarm and fire detection system shall be capable of immediate operation at all times and no action by the crew shall be necessary to set it in operation. It shall be of the wet pipe type but small exposed sections may be of the dry pipe type where in the opinion of the Administration this is a necessary precaution. Any parts of the system which may be subjected to freezing temperatures in service shall be suitably protected against freezing. It shall be kept charged at the necessary pressure and shall have provision for a continuous supply of water as required in this Regulation.
 - (ii) Each section of sprinklers shall include means for giving a visual and audible alarm signal automatically at one or more indicating units whenever any sprinkler comes into operation. Such units shall give an indication of any fire and its location in any space served by the system and shall be centralized on the navigating bridge or in the main fire control station, which shall be so manned or equipped as to ensure that any alarm from the system is immediately received by a responsible member of the crew. Such alarm systems shall be constructed so as to indicate if any fault occurs in the system.
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- (b)
- (i) Sprinklers shall be grouped into separate sections, each of which shall contain not more than 200 sprinklers. Any section of sprinklers shall not serve more than two decks and shall not be situated in more than one main vertical zone, except that an Administration, if it is satisfied that the protection of the ship against fire will not thereby be reduced, may permit such a section of sprinklers to serve more than two decks or to be situated in more than one main vertical zone.
 - (ii) Each section of sprinklers shall be capable of being isolated by one stop valve only. The stop valve in each section shall be readily accessible and its location shall be clearly and permanently indicated. Means shall be provided to prevent the operation of the stop valves by any unauthorized person.
 - (iii) A gauge indicating the pressure in the system shall be provided at each section stop valve and at a central station.
 - (iv) The sprinklers shall be resistant to corrosion by marine atmospheres. In accommodation and service spaces the sprinklers shall come into operation within the temperature range of 68deg.C (155deg.F) and 79deg.C (175deg.F), except that in locations such as drying rooms, where high ambient temperatures might be expected, the operating temperature may be increased by not more than 30deg.C (54deg.F) above the maximum deck head temperature.
 - (v) A list or plan shall be displayed at each indicating unit showing the spaces covered and the location of the zone in respect of each section. Suitable instructions for testing and maintenance shall be available.
- (c) Sprinklers shall be placed in an overhead position and spaced in a suitable pattern to maintain an average application rate of not less than 5 litres per square metre (0.1 gallon per square foot) per minute over the nominal area covered by the sprinklers. Alternatively, the Administration may permit the use of sprinklers providing such other amount of water suitably distributed as has been shown to the satisfaction of the Administration to be not less effective.
- (d)
- (i) A pressure tank having a volume equal to at least twice that of the charge of water specified in this sub-paragraph shall be provided. The tank shall contain a standing charge of fresh water, equivalent to the amount of water which would be discharged in one minute by the pump referred to in sub-paragraph (e)(ii) of this Regulation, and the arrangements shall provide for maintaining such air pressure in the tank to ensure that where the standing charge of fresh water in the tank has been used the pressure will be not less than the working pressure of the sprinkler, plus the pressure due to a head of water measured from the bottom of the tank to the highest sprinkler in the system. Suitable means of replenishing the air under pressure and of replenishing the
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fresh water charge in the tank shall be provided. A glass gauge shall be provided to indicate the correct level of the water in the tank.

- (ii) Means shall be provided to prevent the passage of sea water into the tank.
- (e)
- (i) An independent power pump shall be provided solely for the purpose of continuing automatically the discharge of water from the sprinklers. The pump shall be brought into action automatically by the pressure drop in the system before the standing fresh water charge in the pressure tank is completely exhausted.
 - (ii) The pump and the piping system shall be capable of maintaining the necessary pressure at the level of the highest sprinkler to ensure a continuous output of water sufficient for the simultaneous coverage of a minimum area of 280 square metres (3,000 square feet) at the application rate specified in paragraph (c) of this Regulation.
 - (iii) The pump shall have fitted on the delivery side a test valve with a short open-ended discharge pipe. The effective area through the valve and pipe shall be adequate to permit the release of the required pump output while maintaining the pressure in the system specified in sub-paragraph (d)(i) of this Regulation.
 - (iv) The sea inlet to the pump shall wherever possible be in the space containing the pump and shall be so arranged that when the ship is afloat it will not be necessary to shut off the supply of sea water to the pump for any purpose other than the inspection or repair of the pump.
- (f) The sprinkler pump and tank shall be situated in a position reasonably remote from any machinery space of Category A and shall not be situated in any space required to be protected by the sprinkler system.
- (g) There shall be not less than two sources of power supply for the sea water pump and automatic alarm and detection system. Where the sources of power for the pump are electrical, these shall be a main generator and an emergency source of power. One supply for the pump shall be taken from the main switchboard, and one from the emergency switchboard by separate feeders reserved solely for that purpose.

The feeders shall be arranged so as to avoid galleys, machinery spaces and other enclosed spaces of high fire risk except in so far as it is necessary to reach the appropriate switchboards, and shall be run to an automatic change-over switch situated near the sprinkler pump. This switch shall permit the supply of power from the main switchboard so long as a supply is available therefrom, and be so designed that upon failure of that supply it will automatically change over to the supply from the emergency switchboard. The switches on the main switchboard and the emergency switchboard shall be clearly labelled and normally kept closed. No other switch shall be permitted in the feeders concerned. One of the sources of power supply for the alarm and detection system shall be an emergency source. Where one of the sources of power for the pump is an internal

combustion-type engine it shall, in addition to complying with the provisions of paragraph (f) of this Regulation, be so situated that a fire in any protected space will not affect the air supply to the machinery.

- (h) The sprinkler system shall have a connexion from the ship's fire main by way of a lockable screw-down non-return valve at the connexion which will prevent a backflow from the sprinkler system to the fire main.
- (i)
 - (i) A test valve shall be provided for testing the automatic alarm for each section of sprinklers by a discharge of water equivalent to the operation of one sprinkler. The test valve for each section shall be situated near the stop valve for that section.
 - (ii) Means shall be provided for testing the automatic operation of the pump, on reduction of pressure in the system.
 - (iii) Switches shall be provided at one of the indicating positions referred to in subparagraph (a)(ii) of this Regulation which will enable the alarm and the indicators for each section of sprinklers to be tested.
- (j) Spare sprinkler heads shall be provided for each section of sprinklers to the satisfaction of the Administration.

Regulation 13
Automatic Fire Alarm and Fire Detection Systems

Requirements for passenger ships carrying more than 36 passengers

- (a)
 - (i) Any required automatic fire alarm and fire detection system shall be capable of immediate operation at all times and no action of the crew shall be necessary to set it in operation.
 - (ii) Each section of detectors shall include means for giving a visual and audible alarm signal automatically at one or more indicating units whenever any detector comes into operation. Such units shall give an indication of any fire and its location in any space served by the system and shall be centralized on the navigating bridge or in the main fire control station which shall be so manned or equipped as to ensure that any alarm from the system is immediately received by a responsible member of the crew. Such alarm system shall be constructed so as to indicate if any fault occurs in the system.
- (b) Detectors shall be grouped into separate sections each covering not more than 50 rooms served by such a system and containing not more than 100 detectors. A section of detectors shall not serve spaces on both the port and starboard sides of the ship nor on more than one deck and neither shall it be situated in more than one main vertical zone

except that the Administration, if it is satisfied that the protection of the ship against fire will not thereby be reduced, may permit such a section of detectors to serve both the port and starboard sides of the ship and more than one deck.

- (c) The system shall be operated by an abnormal air temperature, by an abnormal concentration of smoke or by other factors indicative of incipient fire in any one of the spaces to be protected. Systems which are sensitive to air temperature shall not operate at less than 57deg.C (135deg.F) and shall operate at a temperature not greater than 74deg.C (165deg.F) when the temperature increase to those levels is not more than 1deg.C (1.8deg.F) per minute. At the discretion of the Administration the permissible temperature of operation may be increased to 30deg.C (54deg.F) above the maximum deckhead temperature in drying rooms and similar places of a normally high ambient temperature. Systems which are sensitive to smoke concentration shall operate on the reduction of the intensity of a transmitted light beam by an amount to be determined by the Administration. Other equally effective methods of operation may be accepted at the discretion of the Administration. The detection system shall not be used for any purpose other than fire detection.
- (d) The detectors may be arranged to operate the alarm by the opening or closing of contacts or by other appropriate methods. They shall be fitted in an overhead position and shall be suitably protected against impact and physical damage. They shall be suitable for use in a marine atmosphere. They shall be placed in an open position clear of beams and other objects likely to obstruct the flow of hot gases or smoke to the sensitive element. Detectors operated by the closing of contacts shall be of the sealed contact type and the circuit shall be continuously monitored to indicate fault conditions.
- (e) At least one detector shall be installed in each space where detection facilities are required and there shall be not less than one detector for each 37 square metres (400 square feet) of deck area. In large spaces the detectors shall be arranged in a regular pattern so that no detector is more than 9 metres (30 feet) from another detector or more than 4.5 metres (15 feet) from a bulkhead.
- (f) There shall be not less than two sources of power supply for the electrical equipment used in the operation of the fire alarm and fire detection system, one of which shall be an emergency source. The supply shall be provided by separate feeders reserved solely for that purpose. Such feeders shall run to a change-over switch situated in the control station for the fire detection system. The wiring system shall be so arranged to avoid galleys, machinery spaces and other enclosed spaces having a high fire risk except in so far as it is necessary to provide for fire detection in such spaces or to reach the appropriate switchboard.
- (g)
 - (i) A list or plan shall be displayed adjacent to each indicating unit showing the spaces covered and the location of the zone in respect of each section. Suitable instructions for testing and maintenance shall be available.

- (ii) Provision shall be made for testing the correct operation of the detectors and the indicating units by supplying means for applying hot air or smoke at detector positions.
- (h) Spare detector heads shall be provided for each section of detectors to the satisfaction of the Administration.

Requirements for all other types of ships

- (i) All required fire detection systems shall be capable of automatically indicating the presence or indication of fire and also its location. Indicators shall be centralized either on the navigating bridge or in other control stations which are provided with a direct communication with the bridge. The Administration may permit the indicators to be distributed among several stations.
- (j) In passenger ships electrical equipment used in the operation of required fire detection systems shall have two separate sources of power, one of which shall be an emergency source.
- (k) The alarm system shall operate both audible and visible signals at the main stations referred to in paragraph (i) of this Regulation. Detection systems for cargo spaces need not have audible alarms.

Regulation 14
Fireman's Outfit

A fireman's outfit shall consist of:

- (a) Personal equipment comprising:
 - (i) Protective clothing of material to protect the skin from the heat radiating from the fire and from burns and scalding by steam. The outer surface shall be water-resistant.
 - (ii) Boots and gloves of rubber or other electrically non-conducting material.
 - (iii) A rigid helmet providing effective protection against impact.
 - (iv) An electric safety lamp (hand lantern) of an approved type with a minimum burning period of three hours.
 - (v) An axe to the satisfaction of the Administration.
- (b) A breathing apparatus of an approved type which may be either:

- (i) A smoke helmet or smoke mask which shall be provided with a suitable air pump and a length of air hose sufficient to reach from the open deck, well clear of hatch or doorway, to any part of the holds or machinery spaces. If, in order to comply with this sub-paragraph, an air hose exceeding 36 metres (120 feet) in length would be necessary, a self-contained breathing apparatus shall be substituted or provided in addition as determined by the Administration, or
- (ii) a self-contained breathing apparatus which shall be capable of functioning for a period of time to be determined by the Administration.

For each breathing apparatus a fireproof lifeline of sufficient length and strength shall be provided capable of being attached by means of a snaphook to the harness of the apparatus or to a separate belt in order to prevent the breathing apparatus becoming detached when the lifeline is operated.

Regulation 15
Ready Availability of Fire-Extinguishing Appliances

In all new and existing ships, fire-extinguishing appliances shall be kept in good order and available for immediate use at all times during the voyage.

Regulation 16
Acceptance of Substitutes

Where in this Chapter any special type of appliance, apparatus, extinguishing medium or arrangement is specified in any new and existing ships, any other type of appliance *etc.*, may be allowed, provided the Administration is satisfied that it is not less effective.

PART B
FIRE SAFETY MEASURES FOR PASSENGER SHIPS CARRYING MORE THAN
36 PASSENGERS

Regulation 17
Structure

The hull, superstructure, structural bulkheads, decks and deckhouses shall be constructed of steel or other equivalent material. For the purpose of applying the definition of steel or other equivalent material as given in Regulation 3(g) of this Chapter the "applicable fire exposure" shall be according to the integrity and insulation standards given in the tables of Regulation 20 of this Chapter. An example where divisions such as decks or sides and ends of deckhouses are permitted to have "B-0" fire integrity, the "applicable fire exposure" shall be one half-hour.

Provided that in cases where any part of the structure is of aluminium alloy, the following requirements shall apply:

- (a) The insulation of aluminium alloy components of 'A' or 'B' Class divisions, except structure which in the opinion of the Administration is non-load-bearing, shall be such that the temperature of the structural core does not rise more than 200deg.C (360deg.F) above the ambient temperature at any time during the applicable fire exposure to the standard fire test.
- (b) Special attention shall be given to the insulation of aluminium alloy components of columns, stanchions and other structural members required to support lifeboat and liferaft stowage, launching and embarkation areas, and 'A' and 'B' Class divisions to ensure:
 - (i) that for such members supporting lifeboat and liferaft areas and 'A' Class divisions the temperature rise limitation specified in paragraph (a) of this Regulation shall apply at the end of one hour; and
 - (ii) that for such members required to support 'B' Class divisions, the temperature rise limitation specified in paragraph (a) of this Regulation shall apply at the end of one half-hour.
- (c) Crowns and casings of machinery spaces of Category A shall be of steel construction adequately insulated and openings therein, if any, shall be suitably arranged and protected to prevent the spread of fire.

Regulation 18
Main Vertical Zones and Horizontal Zones

- (a) The hull, superstructure and deckhouses shall be subdivided into main vertical zones by 'A' Class divisions. Steps and recesses shall be kept to a minimum, but where they are necessary, they shall also be 'A' Class divisions. These divisions shall have insulation values in accordance with the applicable tables in Regulation 20 of this Chapter.
 - (b) As far as practicable, the bulkheads forming the boundaries of the main vertical zones above the bulkhead deck shall be in line with watertight sub-division bulkheads situated immediately below the bulkhead deck.
 - (c) Such bulkheads shall extend from deck to deck and to the shell or other boundaries.
 - (d) Where a main vertical zone is subdivided by horizontal 'A' Class divisions into horizontal zones for the purpose of providing an appropriate barrier between sprinklered and non-sprinklered zones of the ship the divisions shall extend between adjacent main vertical zone bulkheads and to the shell or exterior boundaries of the ship and shall be insulated in accordance with the fire insulation and integrity values given in Table 3 of Regulation 20 of this Chapter.
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- (e) On ships designed for special purposes, such as automobile or railroad car ferries, where the provision of main vertical zone bulkheads would defeat the purpose for which the ship is intended, equivalent means for controlling and limiting a fire shall be substituted and specially approved by the Administration.

Provided that in a ship with special category spaces, any such space shall comply with the applicable provisions of Regulation 30 of this Chapter, and in so far as such compliance would be inconsistent with compliance with other requirements of this Part of this Chapter, the requirements of Regulation 30 shall prevail.

Regulation 19
Bulkheads Within A Main Vertical Zone

- (a) All bulkheads which are not required to be 'A' Class divisions shall be at least 'B' Class or 'C' Class divisions as prescribed in the tables in Regulation 20 of this Chapter. All such divisions may be faced with combustible materials in accordance with the provisions of Regulation 27 of this Chapter.
- (b) All corridor bulkheads where not required to be 'A' Class shall be 'B' Class divisions which shall extend from deck to deck except:
- (i) when continuous 'B' Class ceilings and/or linings are fitted on both sides of the bulkhead, the portion of the bulkhead behind the continuous ceiling or lining shall be of material which in thickness and composition is acceptable in the construction of 'B' Class divisions but which shall be required to meet 'B' Class integrity standards only in so far as is reasonable and practicable in the opinion of the Administration;
 - (ii) in the case of a ship protected by an automatic sprinkler system complying with the provisions of Regulation 12 of this Chapter, the corridor bulkheads of 'B' Class materials may terminate at a ceiling in the corridor provided such a ceiling is of material which in thickness and composition is acceptable in the construction of 'B' Class divisions. Notwithstanding the requirements of Regulation 20 of this Chapter, such bulkheads and ceilings shall be required to meet 'B' Class integrity standards only in so far as is reasonable and practicable in the opinion of the Administration. All doors and frames in such bulkheads shall be of incombustible materials and shall be constructed and erected so as to provide substantial fire resistance to the satisfaction of the Administration.
- (c) All bulkheads required to be 'B' Class divisions, except corridor bulkheads, shall extend from deck to deck and to the shell or other boundaries unless continuous 'B' Class ceilings and/or linings are fitted on both sides of the bulkhead in which case the bulkhead may terminate at the continuous ceiling or lining.

Regulation 20
Fire Integrity of Bulkheads and Decks

- (a) In addition to complying with the specific provisions for fire integrity of bulkheads and decks mentioned elsewhere in the Regulations of this Part, the minimum fire integrity of all bulkheads and decks shall be as prescribed in Tables 1 to 4 in this Regulation. Where, due to any particular structural arrangements in the ship, difficulty is experienced in determining from the tables the minimum fire integrity value of any divisions, such values shall be determined to the satisfaction of the Administration.
- (b) The following requirements shall govern application of the tables:
- (i) Table 1 shall apply to bulkheads bounding main vertical zones or horizontal zones.
Table 2 shall apply to bulkheads not bounding either main vertical zones or horizontal zones.
Table 3 shall apply to decks forming steps in main vertical zones or bounding horizontal zones.
Table 4 shall apply to decks not forming steps in main vertical zones nor bounding horizontal zones.
- (ii) For the purpose of determining the appropriate fire integrity standards to be applied to boundaries between adjacent spaces, such spaces are classified according to their fire risk as shown in Categories (1) to (14) below. Where the contents and use of a space are such that there is a doubt as to its classification for the purpose of this Regulation, it shall be treated as a space within the relevant category having the most stringent boundary requirements. The title of each category is intended to be typical rather than restrictive. The number in parentheses preceding each category refers to the applicable column or row number in the tables.
- (1) *Control stations*
- Spaces containing emergency sources of power and lighting.
 - Wheelhouse and chartroom.
 - Spaces containing the ship's radio equipment.
 - Fire control and recording stations.
 - Control room for propelling machinery when located outside the propelling machinery space.
 - Spaces containing centralized fire alarm equipment.
 - Spaces containing centralized emergency public address system stations and equipment.
- (2) *Stairways*
- Interior stairways, lifts and escalators (other than those wholly contained within the machinery spaces) for passengers and crew and enclosures thereto; In this connexion, a stairway which is enclosed at only one level shall be regarded as part of the space from which it is not separated by a fire door.
-

(3) *Corridors*

- Passenger and crew corridors.

(4) *Lifeboat and liferaft handling and embarkation stations*

- Open deck spaces and enclosed promenades forming lifeboat and liferaft embarkation and lowering stations.

(5) *Open deck spaces*

- Open deck spaces and enclosed promenades clear of lifeboat and liferaft embarkation and lowering stations.
- Air space (the space outside superstructures and deckhouses).

(6) *Accommodation spaces of minor fire risk*

- Cabins containing furniture and furnishings of restricted fire risk.
- Public spaces containing furniture and furnishings of restricted fire risk.
- Public spaces containing furniture and furnishings of restricted fire risk and having a deck area of less than 50 square metres (540 square feet).
- Offices and dispensaries containing furniture and furnishings of restricted fire risk.

(7) *Accommodation spaces of moderate fire risk*

- Same as (6) above but containing furniture and furnishings of other than restricted fire risk.
- Public spaces containing furniture and furnishings of restricted fire risk and having a deck area of 50 square metres (540 square feet) and greater.
- Isolated lockers and small store-rooms in accommodation spaces.
- Sales shops.
- Motion picture projection and film stowage rooms.
- Diet kitchens (containing no open flame).
- Cleaning gear lockers (in which inflammable liquids are not stowed).
- Laboratories (in which inflammable liquids are not stowed).
- Pharmacies.
- Small drying rooms (having a deck area of 4 square metres (43 square feet) or less).
- Specie rooms.

(8) *Accommodation spaces of greater fire risk*

- Public spaces containing furniture and furnishings of other than restricted fire risk and having a deck area of 50 square metres (540 square feet) and greater.
- Barber shops and beauty parlours.

(9) *Sanitary and similar spaces*

- Communal sanitary facilities, showers, baths, water closets, *etc.*

- Small laundry rooms.
- Indoor swimming pool area.
- Operating rooms.
- Isolated serving pantries in accommodation spaces.
- Private sanitary facilities shall be considered a portion of the space in which they are located.

(10) *Tanks, voids and auxiliary machinery spaces having little or no fire risk*

- Water tanks forming part of the ship's structure.
- Voids and cofferdams.
- Auxiliary machinery spaces which do not contain machinery having a pressure lubrication system and where storage of combustibles is prohibited, such as ventilation and air-conditioning rooms; windlass room; steering gear room; stabilizer equipment room; electrical propulsion motor room; rooms containing section switchboards and purely electrical equipment other than oil-filled electrical transformers (above 10kVA); shaft alleys and pipe tunnels; spaces for pumps and refrigeration machinery (not handling or using inflammable liquids).
- Closed trunks serving the spaces listed above.
- Other closed trunks such as pipe and cable trunks.

(11) *Auxiliary machinery spaces, cargo spaces, special category spaces, cargo and other oil tanks and other similar spaces of moderate fire risk*

- Cargo oil tanks.
- Cargo holds, trunkways and hatchways.
- Refrigerated chambers.
- Oil fuel tanks (where installed in a separate space with no machinery).
- Shaft alleys and pipe tunnels allowing storage of combustibles.
- Auxiliary machinery spaces as in Category (10) which contain machinery having a pressure lubrication system or where storage of combustibles is permitted.
- Oil fuel filling stations.
- Spaces containing oil-filled electrical transformers (above 10kVA).
- Spaces containing turbine and reciprocating steam engine driven auxiliary generators and small internal combustion engines of power output up to 112 kW driving emergency generators, sprinkler, drencher or fire pumps, bilge pumps, etc.
- Special category spaces (Tables 1 and 3 only apply).
- Closed trunks serving the spaces listed above.

(12) *Machinery spaces and main galleys*

- Main propelling machinery rooms (other than electric propulsion motor rooms) and boiler rooms.
 - Auxiliary machinery spaces other than those in Categories (10) and (11) which contain internal combustion machinery or other oil-burning, heating or pumping units.
 - Main galleys and annexes.
 - Trunks and casings to the spaces listed above.
-

(13) *Store-rooms, workshops, pantries, etc.*

- Main pantries not annexed to galleys.
- Main laundry.
- Large drying rooms (having a deck area of more than 4 square metres (43 square feet)).
- Miscellaneous stores.
- Mail and baggage rooms.
- Garbage rooms.
- Workshops (not part of machinery spaces, galleys, *etc.*).

(14) *Other spaces in which inflammable liquids are stowed*

- Lamp rooms.
- Paint rooms.
- Store-rooms containing inflammable liquids (including dyes, medicines, *etc.*).
- Laboratories (in which inflammable liquids are stowed).

(iii) Where a single value is shown for the fire integrity of a boundary between two spaces, that value shall apply in all cases.

(iv) In determining the applicable fire integrity standard of a boundary between two spaces within a main vertical zone or horizontal zone which is not protected by an automatic sprinkler system complying with the provision of Regulation 12 of this Chapter or between such zones neither of which is so protected, the higher of the two values given in the tables shall apply.

(v) In determining the applicable fire integrity standard of a boundary between two spaces within a main vertical zone or horizontal zone which is protected by an automatic sprinkler system complying with the provisions of Regulation 12 of this Chapter or between such zones both of which are so protected, the lesser of the two values given in the tables shall apply. In instances where a sprinklered zone and a non-sprinklered zone meet within accommodation and service spaces, the higher of the two values given in the tables shall apply to the division between the zones.

(vi) Where adjacent spaces are in the same numerical category and the superscript "1" appears in the tables, a bulkhead or deck between such spaces need not be fitted if deemed unnecessary by the Administration. For example, in Category (12) a bulkhead need not be required between a galley and its annexed pantries provided the pantry bulkheads and decks maintain the integrity of the galley boundaries. A bulkhead is, however, required between a galley and a machinery space even though both spaces are in Category (12).

(vii) Where the superscript "2" appears in the tables, the lesser insulation value may be permitted only if at least one of the adjoining spaces is protected by an automatic sprinkler system complying with the provisions of Regulation 12 of this Chapter.

- (viii) Notwithstanding the provisions of Regulation 19 of this Chapter, there are no special requirements for material or integrity of boundaries where only a dash appears in the tables.
- (ix) The Administration shall determine in respect of Category (5) spaces whether the insulation values in Table 1 or 2 shall apply to ends of deckhouses and superstructures, and whether the insulation values in Table 3 or 4 shall apply to weather decks. In no case shall the requirements of Category (5) of Tables 1 to 4 necessitate enclosure of spaces which in the opinion of the Administration need not be enclosed.
- (c) Continuous 'B' Class ceilings or linings, in association with the relevant decks or bulkheads, may be accepted as contributing wholly or in part, to the required insulation and integrity of a division.
- (d) In approving structural fire protection details, the Administration shall have regard to the risk of heat transmission at intersections and terminal points of required thermal barriers.

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

TABLE 1 BULKHEADS BOUNDING MAIN VERTICAL ZONES OR HORIZONTAL ZONES

Spaces	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Control stations	(1)	A-60	A-30	A-30	A-0	A-0	A-60	A-60	A-60	A-0	A-0	A-60	A-60	A-60
Stairways	(2)		A-0	A-0	A-0	A-15 A-0	A-30 A-0	A-60 A-15	A-0	A-0	A-30	A-60	A-15 A-0	A-60
Corridors	(3)			A-0	A-0	A-0	A-30 A-0	A-30 A-0	A-0	A-0	A-30	A-60	A-15 A-0	A-60
Lifeboat and liferaft handling and embarking stations	(4)				-	-	A-0	A-0	A-0	A-0	A-0	A-60	A-0	A-60
Open deck spaces	(5)					-	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Accommodation spaces of minor fire risk	(6)						A-15 A-0	A-30 A-0	A-30 A-0	A-0	A-0	A-15 A-0	A-30	A-15 A-0
Accommodation spaces of moderate fire risk	(7)							A-30 A-0	A-60 A-15	A-0	A-0	A-30 A-0	A-60	A-30 A-0
Accommodation spaces of greater fire risk	(8)								A-60 A-15	A-0	A-0	A-60 A-15	A-60	A-30 A-0
Sanitary and similar spaces	(9)								A-0	A-0	A-0	A-0	A-0	A-0
Tanks, voids and auxiliary machinery spaces having little or no fire risk	(10)									A-0	A-0	A-0	A-0	A-0
Auxiliary machinery spaces, cargo	(11)										A-0	A-60	A-0	A-60

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

spaces, special category spaces, cargo and other oil tanks and other similar spaces of moderate fire risk														
Machinery spaces and main galleys	(12)											A-60	A-30 ² A-15	A-60
Store rooms, workshops, pantries, etc.	(13)												A-0	A-30
Other spaces in which inflammable liquids are stowed	(14)													A-60

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

TABLE 2 BULKHEADS NOT BOUNDING EITHER MAIN VERTICAL ZONES OR HORIZONTAL ZONES

Spaces	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Control stations	(1)	B-0 ¹	A-0	A-0	A-0	A-0	A-60	A-60	A-0	A-0	A-60	A-60	A-60	A-60
Stairways	(2)	A-0 ¹	A-0	A-0	A-0	A-0	A-15 A-0	A-30 A-0	A-0	A-0	A-15	A-30	A-15 A-0	A-30
Corridors	(3)			C	A-0	A-0 B-0	B-15 B-0	B-15 B-0	B-0	A-0	A-15	A-30	A-0	A-30 A-0
Lifeboat and liferaft handling and embarking stations	(4)				-	-	A-0	A-0	A-0	A-0	A-0	A-15	A-0	A-15 A-0
Open deck spaces	(5)					-	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-0 B-0
Accommodation spaces of minor fire risk	(6)						B-0 C	B-15 C	B-15 C	B-0 C	A-0	A-15 A-0	A-30	A-0
Accommodation spaces of moderate fire risk	(7)							B-15 C	B-15 C	B-0 C	A-0	A-15 A-0	A-60	A-15 A-0
Accommodation spaces of greater fire risk	(8)								B-15 C	B-0 C	A-0	A-30 A-0	A-60	A-15 A-0
Sanitary and similar spaces	(9)									C	A-0	A-0	A-0	A-0
Tanks,	(10)										A-	A-0	A-0	A-

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

voids and auxiliary machinery spaces having little or no fire risk										0 ¹				0
Auxiliary machinery spaces, cargo spaces, special category spaces, cargo and other oil tanks and other similar spaces of moderate fire risk	(11)										A-0 ¹	A-0	A-0	A-30 ² A-15
Machinery spaces and main galleys	(12)											A-0	A-0	A-60
Store rooms, workshops, pantries, etc.	(13)												A-0 ¹	A-0
Other spaces in which flammable liquids are stowed	(14)													A-30 ² A-15

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

TABLE 3 DECKS FORMING STEPS IN MAIN VERTICAL ZONES OR BOUNDING HORIZONTAL ZONES

Space below	Space above		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Control stations		(1)	A-60	A-60	A-30	A-0	A-0	A-15	A-30	A-60	A-0	A-0	A-30	A-60	A-15	A-60
Stairways		(2)	A-15	A-0	A-0	A-0	A-0	A-0	A-15 A-0	A-15 A-0	A-0	A-0	A-0	A-60	A-0	A-60
Corridors		(3)	A-30	A-0	A-0	A-0	A-0	A-0	A-15 A-0	A-15 A-0	A-0	A-0	A-0	A-60	A-0	A-60
Lifeboat and liferaft handling and embarkation stations		(4)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Open deck spaces		(5)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Accommodation spaces of minor fire risk		(6)	A-60	A-30 A-0	A-15 A-0	A-0	A-0	A-0	A-15 A-0	A-30 A-0	A-0	A-0	A-15 A-0	A-15	A-0	A-15
Accommodation spaces of moderate fire risk		(7)	A-60	A-60 A-15	A-30 A-0	A-15 A-0	A-0	A-15 A-0	A-30 A-0	A-60 A-15	A-0	A-0	A-30 A-0	A-30	A-0	A-30
Accommodation spaces of greater fire risk		(8)	A-60	A-60 A-15	A-60 A-15	A-60 A-15	A-0	A-30 A-0	A-60 A-15	A-60 A-15	A-0	A-0	A-30 A-0	A-60	A-15 A-0	A-60
Sanitary and similar spaces		(9)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Tanks, voids and auxiliary machinery spaces having little or no fire risk		(10)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Auxiliary machinery spaces, cargo spaces, special category		(11)	A-60	A-60	A-60	A-60	A-0	A-30 A-0	A-60 A-15	A-60 A-15	A-0	A-0	A-0	A-30	A-30 ² A-0	A-30

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

spaces, cargo and other oil tanks and other similar spaces of moderate fire risk															
Machinery spaces and main galleys	(1 2)	A- 60	A- 60	A- 60	A- 60	A- 0	A- 60	A- 60	A- 60	A- 0	A-0	A- 60	A- 60	A- 60	A- 60
Store rooms, workshops, pantries, etc.	(1 3)	A- 60	A- 60 A- 15	A- 30 A- 0	A- 15	A- 0	A- 15 A- 0	A- 30 A- 15	A- 60 A- 15	A- 0	A-0	A-0	A- 30	A- 0	A- 30
Other spaces in which flammable liquids are stowed	(1 4)	A- 60	A- 60	A- 60	A- 60	A- 0	A- 60	A- 60	A- 60	A- 0	A-0	A- 60	A- 60	A- 60	A- 60

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

TABLE 4 - DECKS NOT FORMING STEPS IN MAIN VERTICAL ZONES NOR BOUNDING HORIZONTAL ZONES

Space below	Space above	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Control stations	(1)	A-30 A-0	A-30 A-0	A-15 A-0	A-0	A-0 B-0	A-0	A-15 A-0	A-30 A-0	A-0	A-0	A-0	A-60	A-0	A-60 A-15
Stairways	(2)	A-0	A-0	A-0	A-0	A-0 B-0	A-0	A-0	A-0	A-0	A-0	A-0	A-30	A-0	A-30 A-0
Corridors	(3)	A-15 A-0	A-0	A-0 ¹ B-0 ¹	A-0	A-0 B-0	A-0 B-0	A-15 B-0	A-15 B-0	A-0 B-0	A-0	A-0	A-30	A-0	A-30 A-0
Lifeboat and liferaft handling and embarkation stations	(4)	A-0	A-0	A-0	A-0	-	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-0	A-0
Open deck spaces	(5)	A-0	A-0	A-0 B-0	A-0	-	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-0 B-0	A-0
Accommodation spaces of minor fire risk	(6)	A-60	A-15 A-0	A-0	A-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-15 A-0	A-0	A-15 A-0
Accommodation spaces of moderate fire risk	(7)	A-60	A-30 A-0	A-15 A-0	A-15 A-0	A-0 B-0	A-0 B-0	A-15 B-0	A-30 B-0	A-0 B-0	A-0	A-15 A-0	A-30 A-0	A-0	A-30 A-0
Accommodation spaces of greater fire risk	(8)	A-60	A-60 A-15	A-60 A-0	A-30 A-0	A-0 B-0	A-15 B-0	A-30 B-0	A-60 B-0	A-0 B-0	A-0	A-30 A-0	A-30 A-0	A-0	A-30 A-0
Sanitary and similar spaces	(9)	A-0	A-0	A-0 B-0	A-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-0	A-0
Tanks, voids	(10)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

and auxiliary machinery spaces having little or no fire risk	)				0	0				0		0		0	0
Auxiliary machinery spaces, cargo spaces, special category spaces, cargo and other oil tanks and other similar spaces of moderate fire risk	(11)	A-60	A-60 A-15	A-60 A-15	A-30 A-0	A-0	A-0	A-15 A-0	A-30 A-0	A-0	A-0	A-0 ¹	A-0	A-0	A-30 ² A-15
Machinery spaces and main galleys	(12)	A-60	A-60	A-60	A-60	A-0	A-60	A-60	A-60	A-0	A-0	A-30	A-30 ¹	A-0	A-60
Store rooms, workshops, pantries, etc.	(13)	A-60	A-30 A-0	A-15 A-0	A-15 A-0	A-0 B-0	A-15 A-0	A-30 A-0	A-30 A-0	A-0 B-0	A-0	A-0	A-0	A-0	A-15 ² A-0
Other spaces in which flammable liquids are stowed	(14)	A-60	A-60 A-30	A-60 A-30	A-60	A-0	A-30 A-0	A-60 A-15	A-60 A-15	A-0	A-0	A-30 ² A-0	A-30 ² A-0	A-0	A-30 ² A-0

Regulation 21
Means of Escape

- (a) In and from all passenger and crew spaces and spaces in which the crew is normally employed, other than machinery spaces, stairways and ladders shall be arranged to provide ready means of escape to the lifeboat and liferaft embarkation deck. In particular, the following provisions shall be complied with:
- (i) Below the bulkhead deck, two means of escape, at least one of which shall be independent of watertight doors, shall be provided from each watertight compartment or similarly restricted space or group of spaces. Exceptionally, the Administration may dispense with one of the means of escape, due regard being paid to the nature and location of spaces and to the number of persons who normally might be quartered or employed there.
 - (ii) Above the bulkhead deck, there shall be at least two means of escape from each main vertical zone or similarly restricted space or group of spaces at least one of which shall give access to a stairway forming a vertical escape.
 - (iii) At least one of the means of escape required by sub-paragraphs (a)(i) and (ii) of this Regulation shall be by means of a readily accessible enclosed stairway, which shall provide continuous fire shelter from the level of its origin to the appropriate lifeboat and liferaft embarkation decks or the highest level served by the stairway, whichever level is the highest. However, where an Administration has granted dispensation under the provisions of sub-paragraph (a)(i) of this Regulation the sole means of escape shall provide safe escape to the satisfaction of the Administration. The width, number and continuity of the stairways shall be to the satisfaction of the Administration.
 - (iv) Protection of access from the stairway enclosures to the lifeboat and liferaft embarkation areas shall be to the satisfaction of the Administration.
 - (v) Lifts shall not be considered as forming one of the required means of escape.
 - (vi) Stairways serving only a space and a balcony in that space shall not be considered as forming one of the required means of escape.
 - (vii) If a radiotelegraph station has no direct access to the weather deck, two means of escape shall be provided from such station.
 - (viii) Dead-end corridors exceeding 13 metres (43 feet) shall not be permitted.
- (b)
- (i) In special category spaces the number and disposition of the means of escape both below and above the bulkhead deck shall be to the satisfaction of the Administration,

and in general the safety of access to the embarkation deck shall be at least equivalent to that provided for under sub-paragraphs (a)(i), (ii), (iii), (iv) and (v) of this Regulation.

- (ii) One of the escape routes from the machinery spaces where the crew is normally employed shall avoid direct access to any special category space.
- (c) Two means of escape shall be provided from each machinery space. In particular, the following provisions shall be complied with:
 - (i) Where the space is below the bulkhead deck the two means of escape shall consist of either:
 - (1) two sets of steel ladders as widely separated as possible, leading to doors in the upper part of the space similarly separated and from which access is provided to the appropriate lifeboat and liferaft embarkation decks. One of these ladders shall provide continuous fire shelter from the lower part of the space to a safe position outside the space; or
 - (2) one steel ladder leading to a door in the upper part of the space from which access is provided to the embarkation deck and a steel door capable of being operated from each side and which provides a safe escape route to the embarkation deck.
 - (ii) Where the space is above the bulkhead deck, two means of escape shall be as widely separated as possible and the doors leading from such means of escape shall be in position from which access is provided to the appropriate lifeboat and liferaft embarkation decks. Where such escapes require the use of ladders these shall be of steel.

Provided that in a ship of less than 1,000 tons gross tonnage, the Administration may dispense with one of the means of escape due regard being paid to the width and disposition of the upper part of the space; and in a ship of 1,000 tons gross tonnage and above, the Administration may dispense with one means of escape from any such space so long as either a door or a steel ladder provides a safe escape route to the embarkation deck due regard being paid to the nature and location of the space and whether persons are normally employed in that space.

Regulation 22

Protection of Stairways and Lifts in Accommodation and Service Spaces

- (a) All stairways shall be of steel frame construction except where the Administration sanctions the use of other equivalent material, and shall be within enclosures formed of 'A' Class divisions, with positive means of closure at all openings, except that:

- (i) a stairway connecting only two decks need not be enclosed, provided the integrity of the deck is maintained by proper bulkheads or doors at one between deck space. When a stairway is closed at one between deck space, the stairway enclosure shall be protected in accordance with the tables for decks in Regulation 20 of this Chapter;
 - (ii) stairways may be fitted in the open in a public space, provided they lie wholly within such public space.
- (b) Stairway enclosures shall have direct communication with the corridors and be of sufficient area to prevent congestion, having in view the number of persons likely to use them in an emergency. In so far as practicable, stairway enclosures shall not give direct access to cabins, service lockers, or other enclosed spaces containing combustibles in which a fire is likely to originate.
- (c) Lift trunks shall be so fitted as to prevent the passage of smoke and flame from one between deck to another and shall be provided with means of closing so as to permit the control of draught and smoke.

Regulation 23

Openings in 'A' Class Divisions

- (a) Where 'A' Class divisions are pierced for the passage of electric cables, pipes, trunks, ducts, *etc.*, for girders, beams or other structures, arrangements shall be made to ensure that the fire resistance is not impaired, subject to the provisions of paragraph (g) of this Regulation.
- (b) Where of necessity, a ventilation duct passes through a main vertical zone bulkhead, a fail-safe automatic closing fire damper shall be fitted adjacent to the bulkhead. The damper shall also be capable of being manually closed from each side of the bulkhead. The operating position shall be readily accessible and be marked in red light-reflecting colour. The duct between the bulkhead and the damper shall be of steel or other equivalent material and, if necessary, to an insulating standard such as to comply with paragraph (a) of this Regulation. The damper shall be fitted on at least one side of the bulkhead with a visible indicator showing if the damper is in the open position.
- (c) Except for hatches between cargo, special category, store, and baggage spaces, and between such spaces and the weather decks, all openings shall be provided with permanently attached means of closing which shall be at least as effective for resisting fires as the divisions in which they are fitted.
- (d) The construction of all doors and door frames in 'A' Class divisions, with the means of securing them when closed, shall provide resistance to fire as well as to the passage of smoke and flame, as far as practicable, equivalent to that of the bulkheads in which the doors are situated. Such doors and door frames shall be constructed of steel or other equivalent material. Watertight doors need not be insulated.

- (e) It shall be possible for each door to be opened and closed from each side of the bulkhead by one person only.
- (f) Fire doors in main vertical zone bulkheads and stairway enclosures, other than power-operated watertight doors and those which are normally locked, shall be of the self-closing type capable of closing against an inclination of 31/2 degrees opposing closure. The speed of door closure shall, if necessary, be controlled so as to prevent undue danger to personnel. All such doors, except those that are normally closed, shall be capable of release from a control station, either simultaneously or in groups, and also individually from a position at the door. The release mechanism shall be so designed that the door will automatically close in the event of disruption of the control system; however, approved power-operated watertight doors will be considered acceptable for this purpose. Hold-back hooks, not subject to control station release, will not be permitted. When double swing doors are permitted, they shall have a latch arrangement which is automatically engaged by the operation of the door release system.
- (g) Where a space is protected by an automatic sprinkler system complying with the provisions of Regulation 12 of this Chapter or fitted with a continuous 'B' Class ceiling, openings in decks not forming steps in main vertical zones nor bounding horizontal zones shall be closed reasonably tight and such decks shall meet the 'A' Class integrity requirements in so far as is reasonable and practicable in the opinion of the Administration.
- (h) The requirements for 'A' Class integrity of the outer boundaries of a ship shall not apply to glass partitions, windows and sidescuttles. Similarly, the requirements for 'A' Class integrity shall not apply to exterior doors in superstructures and deckhouses.

Regulation 24
Openings in 'B' Class Divisions

- (a) Where 'B' Class divisions are penetrated for the passage of electrical cables, pipes, trunks, ducts, *etc.*, or for the fitting of ventilation terminals, lighting fixtures and similar devices, arrangements shall be made to ensure that the fire resistance is not impaired.
 - (b) Doors and door frames in 'B' Class divisions and means of securing them shall provide a method of closure which shall have resistance to fire as far as practicable equivalent to the divisions except that ventilation openings may be permitted in the lower portion of such doors. Where such opening is in or under a door the total net area of any such opening or openings shall not exceed 0.05 square metres (78 square inches). When such opening is cut in a door it shall be fitted with a grill made of non-combustible material. Doors shall be non-combustible.
 - (c) The requirements for 'B' Class integrity of the outer boundaries of a ship shall not apply to glass partitions, windows and sidescuttles. Similarly, the requirements for 'B' Class integrity shall not apply to exterior doors in superstructures and deckhouses.
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- (d) Where an automatic sprinkler system complying with the provisions of Regulation 12 of this Chapter is fitted:
- (i) openings in decks not forming steps in main vertical zones nor bounding horizontal zones shall be closed reasonably tight and such decks shall meet the 'B' Class integrity requirements in so far as is reasonable and practicable in the opinion of the Administration; and
 - (ii) openings in corridor bulkheads of 'B' Class materials shall be protected in accordance with the provisions of Regulation 19 of this Chapter.

Regulation 25
Ventilation Systems

- (a) In general, the ventilation fans shall be so disposed that the ducts reaching the various spaces remain within the main vertical zone.
- (b) Where ventilation systems penetrate decks, precautions shall be taken, in addition to those relating to the fire integrity of the deck required by Regulation 23 of this Chapter, to reduce the likelihood of smoke and hot gases passing from one between deck space to another through the system. In addition to insulation requirements contained in this Regulation, vertical ducts shall, if necessary, be insulated as required by the appropriate tables in Regulation 20 of this Chapter.
- (c) The main inlets and outlets of all ventilation systems shall be capable of being closed from outside the space being ventilated.
- (d) Except in cargo spaces, ventilation ducts shall be constructed of the following materials:
- (i) Ducts not less than 0.075 square metres (116 square inches) in sectional area and all vertical ducts serving more than a single between deck space shall be constructed of steel or other equivalent material.
 - (ii) Ducts less than 0.075 square metres (116 square inches) in sectional area shall be constructed of non-combustible materials. Where such ducts penetrate 'A' or 'B' Class divisions due regard shall be given to ensuring the fire integrity of the division.
 - (iii) Short lengths of duct, not in general exceeding 0.02 square metres (31 square inches) in sectional area nor 2 metres (79 inches) in length, need not be incombustible provided that all of the following conditions are met:
 - (1) the duct is constructed of a material of restricted fire risk to the satisfaction of the Administration;
 - (2) the duct is used only at the terminal end of the ventilation system; and
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- (3) the duct is not located closer than 0.6 metres (24 inches) measured along its length to a penetration of an 'A' or 'B' Class division, including continuous 'B' Class ceilings.
- (e) Where a stairway enclosure is ventilated, the duct or ducts (if any) shall be taken from the fan room independently of other ducts in the ventilation system and shall not serve any other space.
- (f) All power ventilation, except machinery and cargo spaces ventilation and any alternative system which may be required under paragraph (h) of this Regulation, shall be fitted with controls so grouped that all fans may be stopped from either of two separate positions which shall be situated as far apart as practicable. Controls provided for the power ventilation serving machinery spaces shall also be grouped so as to be operable from two positions, one of which shall be outside such spaces. Fans serving power ventilation systems to cargo spaces shall be capable of being stopped from a safe position outside such spaces.
- (g) Where they pass through accommodation spaces or spaces containing combustible materials, the exhaust ducts from galley ranges shall be constructed of 'A' Class divisions. Each exhaust duct shall be fitted with:
- (i) a grease trap readily removable for cleaning;
 - (ii) a fire damper located in the lower end of the duct;
 - (iii) arrangements, operable from within the galley, for shutting off the exhaust fan; and
 - (iv) fixed means for extinguishing a fire within the duct.
- (h) Such measures as are practicable shall be taken in respect of control stations outside machinery spaces in order to ensure that ventilation, visibility and freedom from smoke are maintained, so that in the event of fire the machinery and equipment contained therein may be supervised and continue to function effectively. Alternative and separate means of air supply shall be provided; air inlets of the two sources of supply shall be so disposed that the risk of both inlets drawing in smoke simultaneously is minimized. At the discretion of the Administration, such requirements need not apply to control stations situated on, and opening on to, an open deck, or where local closing arrangements would be equally effective.
- (i) Ducts provided for ventilation of machinery spaces of Category A shall not in general pass through accommodation, service spaces or control stations, except that the Administration may permit relaxation from this requirement, provided that:
- (i) the ducts are constructed of steel, and are insulated to "A-60" standard; or

- (ii) the ducts are constructed of steel and are fitted with an automatic fire damper close to the boundary penetrated and are insulated to "A-60" standard from the machinery space to a point at least 5 metres (16 feet) beyond the fire damper.
- (j) Ducts provided for ventilation of accommodation, service spaces, or control stations shall not in general pass through machinery spaces of Category A, except that the Administration may permit relaxation from this requirement provided that the ducts are constructed of steel and automatic fire dampers are fitted close the boundaries penetrated.

Regulation 26
Windows and Sidescuttles

- (a) All windows and sidescuttles in bulkheads within accommodation and service spaces and control stations other than those to which the provisions of paragraph (h) of Regulation 23 and paragraph (c) of Regulation 24 of this Chapter apply, shall be constructed so as to preserve the integrity requirements of the type of bulkheads in which they are fitted.
- (b) Notwithstanding the requirements of the tables in Regulation 20 of this Chapter:
 - (i) All windows and sidescuttles in bulkheads separating accommodation and service spaces and control stations from weather shall be constructed with frames of steel or other suitable material. The glass shall be retained by a metal glazing bead or angle.
 - (ii) Special attention shall be given to the fire integrity of windows facing open or enclosed lifeboat and liferaft embarkation areas and to windows situated below such areas in such a position that their failure during a fire would impede the launching of, or embarkation into, lifeboats or liferafts.

Regulation 27
Restriction of Combustible Materials

- (a) Except in cargo spaces, mail rooms, baggage rooms, or refrigerated compartments of service spaces, all linings, grounds, ceilings and insulations shall be of non-combustible materials. Partial bulkheads or decks used to subdivide a space for utility or artistic treatment shall also be of non-combustible material.
- (b) Vapour barriers and adhesives used in conjunction with insulation, as well as insulation of pipe fittings, for cold service systems need not be non-combustible, but they shall be kept to the minimum quantity practicable and their exposed surfaces shall have qualities of resistance to the propagation of flame to the satisfaction of the Administration.
- (c) Bulkheads, linings and ceilings, in all accommodation and service spaces may have combustible veneer, provided that such veneer shall not exceed 2 millimetres (1/12 inch) within any such spaces except corridors, stairway enclosures and control stations where it shall not exceed 1.5 millimetres (1/17 inch).

- (d) The total volume of combustible facings, mouldings, decorations and veneers in any accommodation and service space shall not exceed a volume equivalent to 2.5 millimetres (1/10 inch) veneer on the combined area of the walls and ceilings. In the case of ships fitted with an automatic sprinkler system complying with the provisions of Regulation 12 of this Chapter, the above volume may include some combustible material used for erection of 'C' Class divisions.
- (e) All exposed surfaces in corridors or stairway enclosures and surfaces in concealed or inaccessible spaces in accommodation and service spaces and control stations shall have low flame-spread characteristics.¹²
- (f) Furniture in the passages and stairway enclosures shall be kept to a minimum.
- (g) Paints, varnishes and other finishes used on exposed interior surfaces shall not be of a nature to offer an undue fire hazard in the judgment of the Administration and shall not be capable of producing excessive quantities of smoke or other toxic properties.
- (h) Primary deck coverings, if applied, within accommodation and service spaces and control stations, shall be of approved material which will not readily ignite, or give rise to toxic or explosive hazards at elevated temperatures.¹³
- (i) Waste-paper receptacles shall be constructed of non-combustible materials and with solid sides and bottoms.

Regulation 28
Miscellaneous Items

Requirements applicable to all portions of the ship

- (a) Pipes penetrating 'A' or 'B' Class divisions shall be of a material approved by the Administration having regard to the temperature such divisions are required to withstand. Pipes conveying oil or combustible liquids shall be of a material approved by the Administration having regard to the fire risk. Materials readily rendered ineffective by heat shall not be used for overboard scuppers, sanitary discharges, and other outlets which are close to the water-line and where the failure of the material in the event of fire would give rise to danger of flooding.

¹² Reference is made to Guidelines on the Evaluation of Fire Hazard Properties of Materials, adopted by the Organization by Resolution A.166(ES.IV)

¹³ Reference is made to Improved Provisional Guidelines on Test Procedures for Primary Deck Coverings, adopted by the Organization by Resolution A.214(VII)

Requirements applicable to accommodation and service spaces, control stations, corridors and stairways

- (b)
 - (i) Air spaces enclosed behind ceilings, panelling or linings shall be suitably divided by close-fitting draught stops not more than 14 metres (46 feet) apart.
 - (ii) In the vertical direction, such spaces, including those behind linings of stairways, trunks, *etc.*, shall be closed at each deck.
- (c) The construction of ceiling and bulkheading shall be such that it will be possible, without impairing the efficiency of the fire protection, for the fire patrols to detect any smoke originating in concealed and inaccessible places, except where in the opinion of the Administration there is no risk of fire originating in such places.

Regulation 29

Automatic Sprinkler and Fire Alarm and Fire Detection Systems or Automatic Fire Alarm and Fire Detection Systems

In any ship to which this Part applies there shall be installed throughout each separate zone, whether vertical or horizontal, in all accommodation and service spaces and, where it is considered necessary by the Administration, in control stations, except spaces which afford no substantial fire risk (such as void spaces, sanitary spaces, *etc.*) either:

- (i) an automatic sprinkler and fire alarm and fire detection system of an approved type, complying with the provisions of Regulation 12 of this Chapter and installed and so arranged as to protect such spaces; or
- (ii) an automatic fire alarm and fire detection system of an approved type, complying with the provisions of Regulation 13 of this Chapter, and installed and so arranged as to detect the presence of fire in such spaces.

Regulation 30

Protection of Special Category Spaces

Provisions applicable to special category spaces whether above or below the bulkhead deck

- (a) *General*
 - (i) The basic principle underlying the provisions in this Regulation is that as normal main vertical zoning may not be practicable in special category spaces, equivalent protection must be obtained in such spaces on the basis of a horizontal zone concept and the provisions of an efficient fixed fire-extinguishing system. Under this concept a horizontal zone for the purpose of this Regulation may include special category
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spaces on more than one deck provided that the overall height of the zone does not exceed 10 metres (33 feet).

- (ii) All requirements laid down in Regulations 23 and 25 of this Chapter for maintaining the integrity of vertical zones shall be applied equally to decks and bulkheads forming the boundaries separating horizontal zones from each other and from the remainder of the ship.

(b) *Structural protection*

- (i) Boundary bulkheads of special category spaces shall be insulated as required for Category (11) spaces in Table 1 of Regulation 20 of this Chapter and the horizontal boundaries as required for Category (11) spaces in Table 3 of that Regulation.
- (ii) Indicators shall be provided on the navigating bridge which shall indicate when any fire door leading to or from the special category spaces is closed.

(c) *Fixed fire-extinguishing system*¹⁴

Each special category space shall be fitted with an approved fixed pressure water-spraying system for manual operation which shall protect all parts of any deck and vehicle platform, if any, in such space, provided that the Administration may permit the use of any other fixed fire-extinguishing system that has been shown by full-scale test in conditions simulating a flowing petrol fire in a special category space to be not less effective in controlling fires likely to occur in such a space.

(d) *Patrols and detection*

- (i) An efficient patrol system shall be maintained in special category spaces. In any such space in which the patrol is not maintained by a continuous fire watch at all times during the voyage there shall be provided in that space an automatic fire detection system of an approved type.
- (ii) Manual fire alarms shall be provided as necessary throughout the special category spaces and one shall be placed close to each exit from such spaces.

(e) *Fire-extinguishing equipment.* There shall be provided in each special category space:

- (i) a number of hydrants with hoses and dual-purpose nozzles of an approved type so arranged that at least two jets of water each from a single length of hose not emanating from the same hydrant may reach any part of such space;
- (ii) at least three water fog applicators;

¹⁴ Reference is made to Recommendation on Fixed Fire Extinguishing Systems for Special Category Spaces, adopted by the Organization by Resolution A.123(V).

(iii) one portable applicator unit complying with the provisions of Regulation 7(d) of this Chapter, provided that at least two such units are available in the ship for use in such spaces; and

(iv) such number of portable fire extinguishers of an approved type as the Administration may deem sufficient.

(f) *Ventilation system*

(i) There shall be provided an effective power ventilation system for the special category spaces sufficient to give at least 10 air changes per hour. The system for such spaces shall be entirely separated from other ventilation systems and shall be operating at all times when vehicles are in such spaces. The Administration may require an increased number of air changes when vehicles are being loaded and unloaded.

(ii) The ventilation shall be such as to prevent air stratification and the formation of air pockets.

(iii) Means shall be provided to indicate on the navigating bridge any loss or reduction of the required ventilating capacity.

Additional provisions applicable only to special category spaces above the bulkhead deck;

(g) *Scuppers*. In view of the serious loss of stability which could arise due to large quantities of water accumulating on the deck or decks consequent on the operation of the fixed pressure water-spraying system, scuppers shall be fitted so as to ensure that such water is rapidly discharged directly overboard.

(h) *Precautions against ignition of inflammable vapours*

(i) Equipment which may constitute a source of ignition of inflammable vapours and in particular electrical equipment and wiring, shall be installed at least 450 millimetres (18 inches) above the deck, provided that if the Administration is satisfied that the installation of such electrical equipment and wiring below this level is necessary for the safe operation of the ship, such electrical equipment and wiring shall be of a type approved for use in an explosive petrol and air mixture. Electrical equipment installed at more than 450 millimetres (18 inches) above the deck shall be of a type so enclosed and protected as to prevent the escape of sparks. The reference to a level of 450 millimetres (18 inches) above the deck shall be construed to mean each deck on which vehicles are carried and on which explosive vapours might be expected to accumulate.

(ii) Electrical equipment and wiring, if installed in an exhaust ventilation duct, shall be of a type approved for use in explosive petrol and air mixtures and the outlet from any exhaust duct shall be sited in a safe position, having regard to other possible sources of ignition.

Additional provisions applicable only to special category spaces below the bulkhead deck;

- (i) *Bilge pumping and drainage.* In view of the serious loss of stability which could arise due to large quantities of water accumulating on the deck or tank top consequent on the operation of the fixed pressure water-spraying system, the Administration may require pumping and drainage facilities to be provided additional to the requirements of Regulation 18 of Chapter II-1 of the present Convention.
- (j) *Precautions against ignition of inflammable vapours*
 - (i) Electrical equipment and wiring, if fitted, shall be of a type suitable for use in explosive petrol and air mixtures. Other equipment which may constitute a source of ignition of inflammable vapours shall not be permitted.
 - (ii) Electrical equipment and wiring, if installed in an exhaust ventilation duct, shall be of a type approved for use in explosive petrol and air mixtures and the outlet from any exhaust duct shall be sited in a safe position, having regard to other possible sources of ignition.

Regulation 31

Protection of Cargo Spaces Other Than Special Category Spaces Intended For The Carriage of Motor Vehicles with Fuel in Their Tanks for Their Own Propulsion

In any cargo space (other than special category spaces) containing motor vehicles with fuel in their tanks for their own propulsion, the following provisions shall be complied with:

(a) *Fire detection*

There shall be provided an approved fire detection and fire alarm system.

(b) *Fire-extinguishing arrangements*

- (i) There shall be fitted a fixed gas fire-extinguishing system which shall comply with the provisions of Regulation 8 of this Chapter, except that if a carbon dioxide system is fitted, the quantity of gas available shall be at least sufficient to give a minimum volume of free gas equal to 45 per cent of the gross volume of the largest of such cargo spaces which is capable of being sealed, and the arrangements shall be such as to ensure that the gas is introduced rapidly and effectively into the space. Any other fixed gas fire-extinguishing system or fixed high expansion froth fire-extinguishing system may be fitted provided it gives equivalent protection.
- (ii) There shall be provided for use in any such space such number of portable fire extinguishers of an approved type as the Administration may deem sufficient.

(c) *Ventilation system*

- (i) In any such cargo space there shall be provided an effective power ventilation system sufficient to give at least 10 air changes per hour. The system for such cargo spaces shall be entirely separated from other ventilation systems and shall be operating at all times when vehicles are in such spaces.
- (ii) The ventilation shall be such as to prevent air stratification and the formation of air pockets.
- (iii) Means shall be provided to indicate on the navigating bridge any loss or reduction of the required ventilating capacity.

(d) *Precautions against ignition of inflammable vapours*

- (i) Electrical equipment and wiring, if fitted, shall be of a type suitable for use in explosive petrol and air mixtures. Other equipment which may constitute a source of ignition of inflammable vapours shall not be permitted.
- (ii) Electrical equipment and wiring, if installed in an exhaust ventilation duct, shall be of a type approved for use in explosive petrol and air mixtures and the outlet from any exhaust duct shall be sited in a safe position, having regard to other possible sources of ignition.

Regulation 32

Maintenance of Fire Patrols, etc., and Provision for Fire-Extinguishing Equipment

(a) *Fire patrols and detection, alarms and public address systems*

- (i) An efficient patrol system shall be maintained so that an outbreak of fire may be promptly detected. Each member of the fire patrol shall be trained to be familiar with the arrangements of the ship as well as the location and operation of any equipment he may be called upon to use.
- (ii) Manual alarms shall be fitted throughout the accommodation and service spaces to enable the fire patrol to give an alarm immediately to the navigating bridge or main fire control station.
- (iii) An approved fire alarm or fire detecting system shall be provided which will automatically indicate at one or more suitable points or stations the presence or indication of fire and its location in any cargo space which, in the opinion of the Administration, is not accessible to the patrol system, except where it is shown to the satisfaction of the Administration that the ship is engaged on voyages of such short duration that it would be unreasonable to apply this requirement.

- (iv) The ship shall at all times when at sea, or in port (except when out of service), be so manned or equipped as to ensure that any initial fire alarm is immediately received by a responsible member of the crew.
- (v) A special alarm, operated from the navigating bridge of fire control station, shall be fitted to summon the crew. This alarm may be part of the ship's general alarm system but it shall be capable of being sounded independently of the alarm to the passenger spaces.
- (vi) A public address system or other effective means of communication shall be available throughout the accommodation and service spaces and control stations.

(b) *Fire pumps and fire main system*

The ship shall be provided with fire pumps, fire main system, hydrants and hoses complying with the provisions of Regulation 5 of this Chapter and shall comply with the following requirements:

- (i) In a ship of 4,000 tons gross tonnage and upwards, there shall be provided at least three independently-driven fire pumps and, in a ship of less than 4,000 tons gross tonnage, at least two such fire pumps.
- (ii) In a ship of 1,000 tons gross tonnage and upwards, the arrangement of sea connexions, fire pumps and sources of power for operating them shall be such as to ensure that a fire in any one compartment will not put all the fire pumps out of action.
- (iii) In a ship of 1,000 tons gross tonnage and upwards, the arrangement of fire pumps, fire mains and hydrants shall be such that at least one effective jet of water as stipulated in paragraph (c) of Regulation 5 of this Chapter is immediately available from any one hydrant in an interior location. Arrangements shall also be made to ensure the continuation of the output of water by the automatic starting of a required fire pump.
- (iv) In a ship of less than 1,000 tons gross tonnage the arrangements shall be to the satisfaction of the Administration.

(c) *Fire hydrants, hoses and nozzles*

- (i) The ship shall be provided with fire hoses the number and diameter of which shall be to the satisfaction of the Administration. There shall be at least one fire hose for each of the hydrants required by paragraph (d) of Regulation 5 of this Chapter and these hoses shall be used only for the purposes of extinguishing fires or testing the fire-extinguishing apparatus at fire drills and surveys.

- (ii) In accommodation and service spaces and in machinery spaces, the number and position of hydrants shall be such that the requirements of paragraph (d) of Regulation 5 of this Chapter may be complied with when all watertight doors and all doors in main vertical zone bulkheads are closed.
- (iii) The arrangements shall be such that at least two jets of water can reach any part of any cargo space when empty.
- (iv) All required hydrants in machinery spaces shall be fitted with hoses having in addition to the nozzles required in paragraph (g) of Regulation 5 of this Chapter nozzles suitable for spraying water on oil, or alternatively dual-purpose nozzles. Additionally, each machinery space of Category A shall be provided with at least two suitable water fog applicators.
- (v) Water spray nozzles or dual-purpose nozzles shall be provided for at least one quarter of the number of hoses required in parts of the ship other than machinery spaces.
- (vi) For each pair of breathing apparatus there shall be provided one water fog applicator which shall be stored adjacent to such apparatus.
- (vii) Where, in any machinery space of Category A, access is provided at a low level from an adjacent shaft tunnel, two hydrants fitted with hoses with dual-purpose nozzles shall be provided external to, but near the entrance to that machinery space. Where such access is not provided from a tunnel but is provided from other space or spaces there shall be provided in one of those spaces two hydrants fitted with hoses with dual-purpose nozzles near the entrance to the machinery space of Category A. Such provision need not be made when the tunnel or adjacent spaces are not part of an escape route.

(d) *International shore connexion*

- (i) A ship of 1,000 tons gross tonnage and upwards shall be provided with at least one international shore connexion, complying with the provisions of paragraph (h) of Regulation 5 of this Chapter.
- (ii) Facilities shall be available enabling such a connexion to be used on either side of the ship.

(e) *Portable fire extinguishers in accommodation and service spaces and control stations*

The ship shall be provided in accommodation and service spaces and control stations with such approved portable fire extinguishers as the Administration may deem to be appropriate and sufficient.

(f) *Fixed fire-extinguishing arrangements in cargo spaces*

- (i) The cargo spaces of ships of 1,000 tons gross tonnage and upwards shall be protected by a fixed gas fire-extinguishing system complying with the provisions of Regulation 8 of this Chapter, or by a fixed high expansion froth fire-extinguishing system which gives equivalent protection.
- (ii) Where it is shown to the satisfaction of the Administration that ship is engaged on voyages of such short duration that it would be unreasonable to apply the requirements of sub-paragraph (i) of this paragraph and also in ships of less than 1,000 tons gross tonnage, the arrangements in cargo spaces shall be to the satisfaction of the Administration.

(g) *Fire-extinguishing appliances in boiler rooms, etc.*

Spaces containing oil-fired boilers or oil fuel units shall be provided with the following arrangements:

- (i) There shall be any one of the following fixed fire-extinguishing systems:
 - (1) A pressure water-spraying system complying with the provisions of Regulation 11 of this Chapter.
 - (2) A gas system complying with the provisions of Regulation 8 of this Chapter.
 - (3) A froth system complying with the provisions of Regulation 9 of this Chapter.
 - (4) A high expansion froth system complying with the provisions of Regulation 10 of this Chapter.

In each case if the engine and boiler rooms are not entirely separate, or if fuel oil can drain from the boiler room into the engine room, the combined engine and boiler rooms shall be considered as one compartment.

- (ii) There shall be in each boiler room at least one set of portable air-froth equipment complying with the provisions of paragraph (d) of Regulation 7 of this Chapter.
- (iii) There shall be at least two approved portable extinguishers discharging froth or equivalent in each firing space in each boiler room and each space in which a part of the oil fuel installation is situated. There shall be not less than one approved froth-type extinguisher of at least 136 litres (30 gallons) capacity or equivalent in each boiler room. These extinguishers shall be provided with hoses on reels suitable for reaching any part of the boiler room.

(iv) In each firing space there shall be a receptacle containing sand, sawdust impregnated with soda or other approved dry material, in such quantity as may be required by the Administration. Alternatively an approved portable extinguisher may be substituted therefor.

(h) *Fire-extinguishing appliances in spaces containing internal combustion type machinery*

Spaces containing internal combustion machinery used either for main propulsion, or for other purposes when such machinery has in the aggregate a total power output of not less than 373 kW, shall be provided with the following arrangements:

- (i) There shall be one of the fire-extinguishing systems required by sub-paragraph (g)(i) of this Regulation.
- (ii) There shall be at least one set of portable air-froth equipment complying with the provisions of paragraph (d) of Regulation 7 of this Chapter.
- (iii) There shall be in each such space approved froth-type fire extinguishers each of at least 45 litres (10 gallons) capacity or equivalent sufficient in number to enable froth or its equivalent to be directed on to any part of the fuel and lubricating oil pressure systems, gearing and other fire hazards. In addition, there shall be provided a sufficient number of portable froth extinguishers or equivalent which shall be so located that an extinguisher is not more than 10 metres (33 feet) walking distance from any point in the space; provided that there shall be at least two such extinguishers in each such space.

(i) *Fire-extinguishing arrangements in spaces containing steam turbines or enclosed steam engines*

In spaces containing steam turbines or enclosed steam engines used either for main propulsion or for other purposes when such machinery has in the aggregate a total power output of not less than 373 kW:

- (i) There shall be provided froth fire extinguishers each of at least 45 litres (10 gallons) capacity or equivalent sufficient in number to enable froth or its equivalent to be directed on to any part of the pressure lubrication system, on to any part of the casings enclosing pressure lubricated parts of the turbines, engines or associated gearing, and any other fire hazards. Provided that such extinguishers shall not be required if protection at least equivalent to this sub-paragraph is provided in such spaces by a fixed fire-extinguishing system fitted in compliance with sub-paragraph (g)(i) of this Regulation.
- (ii) There shall be provided a sufficient number of portable froth extinguishers or equivalent which shall be so located that an extinguisher is not more than 10 metres (33 feet) walking distance from any point in the space; provided that there shall be at

least two such extinguishers in each such space, and such extinguishers shall not be required in addition to any provided in compliance with sub-paragraph (h)(iii) of this Regulation.

(j) *Fire-extinguishing appliances in other machinery spaces*

Where, in the opinion of the Administration, a fire hazard exists in any machinery space for which no specific provisions for fire-extinguishing appliances are prescribed in paragraphs (g), (h) and (i) of this Regulation there shall be provided in, or adjacent to, that space such number of approved portable fire extinguishers or other means of fire extinction as the Administration may deem sufficient.

(k) *Fixed fire-extinguishing appliances not required by this Part*

Where a fixed fire-extinguishing system not required by this Part of this Chapter is installed, such a system shall be to the satisfaction of the Administration.

(l) *Special requirements for machinery spaces*

- (i) For any machinery space of Category A to which access is provided at a low level from an adjacent shaft tunnel there shall be provided in addition to any watertight door and on the side remote from that machinery space a light steel fire-screen door which shall be operable from each side.
- (ii) An automatic fire detection and alarm system shall be fitted when the administration considers such special precautions warranted in any machinery space in which the installation of automatic and remote control systems and equipment have been approved in lieu of continuous manning of the space.

(m) *Fireman's outfits and personal equipment*

- (i) The minimum number of fireman's outfits complying with the requirements of Regulation 14 of this Chapter, and of additional sets of personal equipment, each such set comprising the items stipulated in sub-paragraphs(a)(i), (ii) and (iii) of that Regulation, to be carried shall be as follows:
 - (1) two fireman's outfits; and in addition
 - (2) for every 80 metres (262 feet) or part thereof, of the aggregate of the lengths of all passenger spaces and service spaces on the deck which carries such spaces or, if there is more than one such deck, on the deck which has the largest aggregate of such lengths, two fireman's outfits and two sets of personal equipment, each such set comprising the items stipulated in Regulation 14(a)(i), (ii) and (iii) of this Chapter.
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- (ii) For each fireman's outfit which includes a self-contained breathing apparatus as provided in paragraph (b) of Regulation 14 of this Chapter, spare charges shall be carried on a scale approved by the Administration.
- (iii) Fireman's outfits and sets of personal equipment shall be stored in widely separated positions ready for use. At least two fireman's outfits and one set of personal equipment shall be available at any one position.

Regulation 33

Arrangements for Oil Fuel, Lubricating Oil and Other Inflammable Oils

(a) Oil fuel arrangements

In a ship in which oil fuel is used, the arrangements for the storage, distribution and utilization of the oil fuel shall be such as to ensure the safety of the ship and persons on board and shall at least comply with the following provisions:

- (i) No oil fuel which has a flashpoint of less than 60deg.C (140deg.F) (closed cup test) as determined by an approved flashpoint apparatus shall be used as fuel, except in emergency generators, in which case the flashpoint shall be not less than 43deg.C (110deg.F).

Provided that the Administration may permit the general use of fuel oil having a flashpoint of not less than 43deg.C (110deg.F) subject to such additional precautions as it may consider necessary and on condition that the temperature of the space in which such fuel is stored or used shall not be allowed to rise within 10deg.C (18deg.F) below the flashpoint of the fuel.

- (ii) As far as practicable, no part of the oil fuel system containing heated oil under pressure exceeding 1.8 kilogrammes per square centimetre (25 pounds per square inch) gauge shall be so concealed that defects and leakage cannot readily be observed. In way of such parts of the oil fuel system the machinery space shall be adequately illuminated.
- (iii) The ventilation of machinery spaces shall be sufficient under all normal conditions to prevent accumulation of oil vapour.
- (iv)
 - (1) As far as practicable, oil fuel tanks shall be part of the ship's structure and shall be located outside machinery spaces of Category A. When oil fuel tanks, except double bottom tanks, are necessarily located adjacent to machinery spaces of Category A, they shall preferably have a common boundary with the double bottom tanks, and the area of the tank boundary common with the machinery space shall be kept to a minimum. In general, the use of free-standing oil fuel

tanks shall be avoided but when such tanks are employed they shall not be situated in machinery spaces of Category A.

- (2) No oil tank shall be situated where spillage or leakage therefrom can constitute a hazard by falling on heated surfaces. Precautions shall be taken to prevent any oil that may escape under pressure from any pump, filter or heater from coming into contact with heated surfaces.
- (v) Every oil fuel pipe which if damaged would allow oil to escape from a storage, settling or daily service tank situated above the double bottom shall be fitted with a cock or valve on the tank capable of being closed from a safe position outside the space concerned in the event of a fire arising in the space in which such tanks are situated. In the special case of deep tanks situated in any shaft or pipe tunnel or similar space, valves on the tanks shall be fitted but control in event of fire may be effected by means of an additional valve on the pipe or pipes outside the tunnel or similar space.
- (vi) Safe and efficient means of ascertaining the amount of oil fuel contained in any oil tank shall be provided. Sounding pipes with suitable means of closure may be permitted if their upper ends terminate in safe positions. Other means of ascertaining the amount of oil fuel contained in any oil fuel tank may be permitted if they do not require penetration below the top of the tank, and providing their failure or overflowing of the tanks will not permit release of fuel thereby.
- (vii) Provision shall be made to prevent over-pressure in any oil tank or in any part of the oil fuel system, including the filling pipes. Any relief valves and air or overflow pipes shall discharge to a position which, in the opinion of the Administration, is safe.
- (viii) Oil fuel pipes shall be of steel or other approved material, provided that restricted use of flexible pipes shall be permissible in positions where the Administration is satisfied that they are necessary. Such flexible pipes and end attachments shall be of approved fire-resisting materials of adequate strength and shall be constructed to the satisfaction of the Administration.

(b) *Lubricating oil arrangements*

The arrangements for the storage, distribution and utilization of oil used in pressure lubrication systems shall be such as to ensure the safety of the ships and persons on board, and such arrangements in machinery spaces of Category A and, whenever practicable, in other machinery spaces shall at least comply with the provisions of sub-paragraphs (ii), (iv)(2), (v), (vi) and (vii) of paragraph (a) of this Regulation.

(c) *Arrangements for other inflammable oils*

The arrangements for the storage, distribution and utilization of other inflammable oils employed under pressure in power transmission systems, control and activating systems and heating systems shall be such as to ensure the safety of the ship and persons on board. In locations where means of ignition are present such arrangements shall at least comply with the provisions of sub-paragraphs (a)(iv)(2) and (a)(vi), and with the provisions of sub-paragraph (a)(viii) in respect of strength and construction, of this Regulation.

Regulation 34
Special Arrangements in Machinery Spaces

- (a) The provisions of this Regulation shall apply to machinery spaces of Category A and, where the Administration considers it desirable, to other machinery spaces.
- (b)
- (i) The number of skylights, doors, ventilators, openings in funnels to permit exhaust ventilation and other openings to machinery spaces shall be reduced to a minimum consistent with the needs of ventilation and the proper and safe working of the ship.
 - (ii) The flaps of such skylights where fitted shall be of steel. Suitable arrangements shall be made to permit the release of smoke in the event of fire, from the space to be protected.
 - (iii) Such doors other than power-operated watertight doors shall be arranged so that positive closure is assured in case of fire in the space, by power-operated closing arrangements or by the provision of self-closing doors capable of closing against an inclination of 31/2 degrees opposing closure and having a fail-safe hook-back facility, provided with a remotely operated release device.
- (c) Windows shall not be fitted in machinery space casings.
- (d) Means of control shall be provided for:
- (i) opening and closure of skylights, closure of openings in funnels which normally allow exhaust ventilation, and closure of ventilator dampers;
 - (ii) permitting the release of smoke;
 - (iii) closure of power-operated doors or release mechanism on doors other than power-operated watertight doors;
 - (iv) stopping ventilating fans; and
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- (v) stopping forced and induced draught fans, oil fuel transfer pumps, oil fuel unit pumps and other similar fuel pumps.
- (e) The controls required for ventilating fans shall comply with the provisions of paragraph of Regulation 25 of this Chapter. The controls for any required fixed fire-extinguishing system and those required by sub-paragraphs (d)(i), (ii), (iii) and (v) of this Regulation and of sub-paragraph (a)(v) of Regulation 33 of this Chapter shall be situated at one control position, or grouped in as few positions as possible to the satisfaction of the Administration. Such position or positions shall be located where they will not be cut off in the event of fire in the space they serve, and shall have a safe access from the open deck.

PART C
FIRE SAFETY MEASURES FOR PASSENGER SHIPS CARRYING NOT MORE
THAN 36 PASSENGERS

Regulation 35
Structure

- (a) The hull, superstructure, structural bulkheads, decks and deckhouses shall be constructed of steel or other equivalent material.
- (b) Where fire protection in accordance with paragraph (b) of Regulation 40 of this Chapter is employed, the superstructure may be constructed of, for example, aluminium alloy, provided that:
 - (i) for the temperature rise of the metallic cores of 'A' Class divisions when exposed to the standard fire test, due regard is given to the mechanical properties of the material;
 - (ii) the Administration is satisfied that the amount of combustible materials used in the relevant part of the ship is suitably reduced; the ceilings (i.e. linings of deck heads) are non-combustible;
 - (iii) adequate provision is made to ensure that in the event of fire, arrangements for stowage, launching and embarkation into survival craft remain as effective as if the superstructure were constructed of steel;
 - (iv) crowns and casings of boiler and machinery spaces are of steel construction adequately insulated, and the openings therein, if any, are suitably arranged and protected to prevent spread of fire.

Regulation 36
Main Vertical Zones

- (a) The hull, superstructure and deckhouses shall be subdivided into main vertical zones. Steps and recesses shall be kept to a minimum, but where they are necessary, they shall be of 'A' Class divisions.
- (b) As far as practicable, the bulkheads forming the boundaries of the main vertical zones above the bulkhead deck shall be in line with watertight sub-division bulkheads situated immediately below the bulkhead deck.
- (c) Such bulkheads shall extend from deck to deck and to the shell or other boundaries.
- (d) On ships designed for special purposes, such as automobile or railroad car ferries, where installation of such bulkheads would defeat the purpose for which the ship is intended, equivalent means for controlling and limiting a fire shall be substituted and specifically approved by the Administration.

Regulation 37
Openings in 'A' Class Divisions

- (a) Where 'A' Class divisions are pierced for the passage of electric cables, pipes, trunks, ducts, *etc.*, for girders, beams or other structures, arrangements shall be made to ensure that the fire resistance is not impaired.
- (b) Where of necessity, a duct passes through a main vertical zone bulkhead, a fail-safe automatic closing fire damper shall be fitted adjacent to the bulkhead. The damper shall also be capable of being manually closed from both sides of the bulkhead. The operating position shall be readily accessible and be marked in red light-reflecting colour. The duct between the bulkhead and the damper shall be of steel or other equivalent material and, if necessary, to an insulating standard such as to comply with paragraph (a) of this Regulation. The damper shall be fitted on at least one side of the bulkhead with a visible indicator showing if the damper is in the open position.
- (c) Except for hatches between cargo, store, and baggage spaces, and between such spaces and the weather decks, all openings shall be provided with permanently attached means of closing which shall be at least as effective for resisting fires as the divisions in which they are fitted.
- (d) The construction of all doors and door frames in 'A' Class divisions, with the means of securing them when closed, shall provide resistance to fire as well as to the passage of smoke and flame as far as practicable equivalent to that of the bulkheads in which the doors are situated. Watertight doors need not be insulated.

- (e) It shall be possible for each door to be opened from either side of the bulkhead by one person only.
- (f) Fire doors in main vertical zone bulkheads and stairway enclosures, other than power-operated watertight doors and those which are normally locked, shall be of the self-closing type capable of closing against an inclination of 31/2 degrees opposing closure. All such doors, except those that are normally closed, shall be capable of release from a control station, either simultaneously or in groups, and also individually from a position at the door. The release mechanism shall be so designed that the door will automatically close in the event of disruption of the control system; however, approved power-operated watertight doors will be considered acceptable for this purpose. Hold-back hooks, not subject to control station release, will not be permitted. When double swing doors are permitted, they shall have a latch arrangement which is automatically engaged by the operation of the door release system.

Regulation 38
Fire Integrity of 'A' Class Divisions

Where 'A' Class divisions are required under this Part, the Administration, in deciding the amount of insulation to be provided, shall be guided by the provisions of Part B of this Chapter, but may accept a reduction of the amount of insulation below that stipulated by that Part.

Regulation 39
Separation of Accommodation Spaces from Machinery, Cargo and Service Spaces

The boundary bulkheads and decks separating accommodation spaces from machinery, cargo and service spaces shall be constructed of 'A' Class divisions, and these bulkheads and decks shall have an insulation value to the satisfaction of the Administration having regard to the nature of the adjacent spaces.

Regulation 40
Protection of Accommodation and Service Spaces

The accommodation and service spaces shall be protected in accordance with the provisions of either paragraph (a) or (b) of this Regulation.

- (a)
 - (i) Within the accommodation spaces, all enclosure bulkheads other than those required to be of 'A' Class divisions, shall be constructed of 'B' Class divisions of non-combustible materials, which may, however, be faced with combustible materials in accordance with sub-paragraph (iii) of this paragraph.
 - (ii) All corridor bulkheads shall extend from deck to deck. Ventilation openings may be permitted in the doors in 'B' Class bulkheads, preferably in the lower portion. All

other enclosure bulkheads shall extend from deck to deck vertically, and to the shell or other boundaries transversely, unless non-combustible ceilings or linings such as will ensure fire integrity are fitted, in which case the bulkheads may terminate at the ceilings or linings.

(iii) Except in cargo spaces, mail rooms, baggage rooms, or refrigerated compartments of service spaces, all linings, grounds, ceilings and insulations shall be of non-combustible materials. The total volume of combustible facings, mouldings, decorations and veneers in any accommodation or public space shall not exceed a volume equivalent to 2.54 millimetres (1/10 inch) veneer on the combined area of the walls and ceilings. All exposed surfaces in corridors or stairway enclosures and in concealed or inaccessible spaces shall have low flame-spread characteristics.¹⁵

(b)

- (i) All corridor bulkheads in accommodation spaces shall be of steel or be constructed of 'B' Class panels.
- (ii) A fire detecting system of an approved type shall be installed and so arranged as to detect the presence of fire in all enclosed spaces appropriated to the use or service of passengers or crew (except spaces which afford no substantial fire hazard) and automatically to indicate at one or more points or stations where it can be most quickly observed by officers and crew, the presence or indication of fire and also its location.

Regulation 41 Deck Coverings¹⁶

Primary deck coverings within accommodation spaces, control stations, stairways and corridors shall be of approved material which will not readily ignite.

Regulation 42 Protection of Stairways and Lifts in Accommodation and Service Spaces

- (a) All stairways and means of escape in accommodation and service spaces shall be of steel or other suitable materials.
- (b) Passenger and service lift trunks, vertical trunks for light and air to passenger spaces, *etc.*, shall be of 'A' Class divisions. Doors shall be of steel or other equivalent material and when closed shall provide fire resistance at least as effective as the trunks in which they are fitted.

¹⁵ Reference is made to Guidelines on the Evaluation of Fire Hazard Properties of Materials, adopted by the Organization by Resolution A.166(ES.IV).

¹⁶ Reference is made to Improved Provisional Guidelines on Test Procedures for Primary Deck Coverings, adopted by the Organization by Resolution A.214(VII).

Regulation 43
Protection of Control Stations and Store-Rooms

- (a) Control stations shall be separated from the remainder of the ship by 'A' Class bulkheads and decks.
- (b) The boundary bulkheads of baggage rooms, mail rooms, store-rooms, paint and lamp lockers, galleys and similar spaces shall be of 'A' Class divisions. Spaces containing highly inflammable stores shall be so situated as to minimize the danger to passengers or crew in the event of fire.

Regulation 44
Windows and Sidescuttles

- (a) All windows and sidescuttles in bulkheads separating accommodation spaces from weather shall be constructed with frames of steel or other suitable material. The glass shall be retained by a metal glazing bead.
- (b) All windows and sidescuttles in bulkheads within accommodation spaces shall be constructed so as to preserve the integrity requirements of the type of bulkhead in which they are fitted.

Regulation 45
Ventilation Systems

Power ventilation of machinery spaces shall be capable of being stopped from an easily accessible position outside the machinery spaces.

Regulation 46
Details of Construction

- (a) Paints, varnishes and similar preparations having a nitro-cellulose or other highly inflammable base shall not be used in any part of the ship.
- (b) Pipes penetrating 'A' or 'B' Class divisions shall be of a material approved by the Administration having regard to the temperature such divisions are required to withstand. Pipes conveying oil or combustible liquids shall be of a material approved by the Administration having regard to the fire risk. Materials readily rendered ineffective by heat shall not be used for overboard scuppers, sanitary discharges, and other outlets which are close to the water-line and where the failure of the material in the event of fire would give rise to danger of flooding.

- (c) In spaces containing main propulsion machinery, or oil-fired boilers, or auxiliary internal combustion type machinery of total power output of 746 kW or over, the following measures shall be taken:
- (i) skylights shall be capable of being closed from outside the space;
 - (ii) skylights containing glass panels shall be fitted with external shutters of steel or other equivalent material permanently attached;
 - (iii) any window permitted by the Administration in casings of such spaces shall be of the non-opening type, and shall be fitted with an external shutter of steel or other equivalent material permanently attached; and
 - (iv) in the windows and skylights referred to in sub-paragraphs (i), (ii) and (iii) of this paragraph, wire reinforced glass shall be used.

Regulation 47

Fire Detection Systems and Fire-Extinguishing Equipment

(a) *Patrols and detection*

- (i) An efficient patrol system shall be maintained in all ships so that any outbreak of fire may be promptly detected. Manual fire alarms shall be fitted throughout the passenger and crew accommodation to enable the fire patrol to give an alarm immediately to the navigating bridge or fire control station.
- (ii) An approved fire alarm or fire detecting system shall be provided which will automatically indicate at one or more suitable points or stations the presence or indication of fire and its location in any part of the ship which, in the opinion of the Administration, is not accessible to the patrol system, except where it is shown to the satisfaction of the Administration that the ship is engaged on voyages of such short duration that it would be unreasonable to apply this requirement.
- (iii) The ship, whether new or existing, shall at all times when at sea, or in port (except when out of service), be so manned or equipped as to ensure that any initial fire alarm is immediately received by a responsible member of the crew.

(b) *Fire pumps and fire main system*

The ship shall be provided with fire pumps, fire main system, hydrants and hoses complying with Regulation 5 of this Chapter and with the following requirements:

- (i) A ship of 4,000 tons gross tonnage and upwards shall be provided with at least three independently driven fire pumps and every ship of less than 4,000 tons gross tonnage with at least two such fire pumps.
- (ii) In a ship of 1,000 tons gross tonnage and upwards, the arrangement of sea connexions, pumps and sources of power for operating them shall be such as to ensure that a fire in any one compartment will not put all the fire pumps out of action.
- (iii) In a ship of less than 1,000 tons gross tonnage the arrangements shall be to the satisfaction of the Administration.

(c) *Fire hydrants, hoses and nozzles*

- (i) The ship shall be provided with such number of fire hoses as the Administration may deem sufficient. There shall be at least one fire hose for each of the hydrants required by paragraph (d) of Regulation 5 of this Chapter and these hoses shall be used only for the purposes of extinguishing fires or testing the fire-extinguishing apparatus at fire drills and surveys.
- (ii) In accommodation, service and machinery spaces, the number and position of hydrants shall be such that the requirements of paragraph (d) of Regulation 5 of this Chapter may be complied with when all watertight doors and all doors in main vertical zone bulkheads are closed.
- (iii) The arrangements shall be such that at least two jets of water can reach any part of any cargo space when empty.
- (iv) All required hydrants in the machinery spaces of ships with oil-fired boilers or internal combustion type propelling machinery shall be fitted with hoses having nozzles as required in paragraph (g) of Regulation 5 of this Chapter.

(d) *International shore connexion*

- (i) A ship of 1,000 tons gross tonnage and upwards shall be provided with at least one international shore connexion, complying with paragraph (h) of Regulation 5 of this Chapter.
- (ii) Facilities shall be available enabling such a connexion to be used on either side of the ship.

(e) *Portable fire extinguishers in accommodation and service spaces*

The ship shall be provided in accommodation and service spaces with such approved portable fire extinguishers as the Administration may deem to be appropriate and sufficient.

(f) Fixed fire-extinguishing arrangements in cargo spaces

- (1) The cargo spaces of ships of 1,000 tons gross tonnage and upwards shall be protected by a fixed gas fire-extinguishing system complying with Regulation 8 of this Chapter.
- (2) Where it is shown to the satisfaction of the Administration that a ship is engaged on voyages of such short duration that it would be unreasonable to apply the requirements of sub-paragraph (i) of this paragraph and also in ships of less than 1,000 tons gross tonnage, the arrangements in cargo spaces shall be to the satisfaction of the Administration.

(g) *Fire-extinguishing appliances in boiler rooms, etc.*

Where main or auxiliary oil-fired boilers are situated, or in spaces containing oil fuel units or settling tanks, a ship shall be provided with the following arrangements:

- (i) There shall be any one of the following fixed fire-extinguishing installations:
 - (1) a pressure water-spraying system complying with Regulation 11 of this Chapter;
 - (2) a gas fire-extinguishing installation complying with Regulation 8 of this Chapter;
 - (3) a fixed froth installation complying with Regulation 9 of this Chapter. (The Administration may require fixed or mobile arrangements by pressure water or froth spraying to fight fire above the floor plates.)

In each case if the engine and boiler rooms are not entirely separate, or if fuel oil can drain from the boiler room into the engine room bilges, the combined engine and boiler rooms shall be considered as one compartment.

- (ii) There shall be at least two approved portable extinguishers discharging froth or other approved medium suitable for extinguishing oil fires, in each firing space in each boiler room and each space in which a part of the oil fuel installation is situated. There shall be not less than one approved froth type extinguisher of at least 136 litres (30 gallons) capacity or equivalent in each boiler room. These extinguishers shall be provided with hoses on reels suitable for reaching any part of the boiler room and spaces containing any part of the oil fuel installations.
- (iii) In each firing space there shall be a receptacle containing sand, sawdust impregnated with soda or other approved dry material, in such quantity as may be required by the Administration. Alternatively an approved portable extinguisher may be substituted therefor.

(h) *Fire-fighting appliances in spaces containing internal combustion type machinery*

Where internal combustion type engines are used, either for main propulsion or for auxiliary purposes associated with a total power output of not less than 746 kW, a ship shall be provided with the following arrangements:

- (i) there shall be one of the fixed arrangements required by sub-paragraph (g)(i) of this Regulation;
 - (ii) there shall be in each engine space one approved froth-type extinguisher of not less than 45 litres (10 gallons) capacity or equivalent and also one approved portable froth-type extinguisher for each 746 kW of engine power output or part thereof; but the total number of portable extinguishers so supplied shall be not less than two and need not exceed six.
- (i) *Fire-fighting arrangements in spaces containing steam turbines and not requiring any fixed installation*

The Administration shall give special consideration to the fire-extinguishing arrangements to be provided in spaces containing steam turbines which are separated from boiler rooms by watertight bulkheads.

(j) *Fireman's outfits and personal equipment*

- (i) The minimum number of fireman's outfits complying with the requirements of Regulation 14 of this Chapter, and of additional sets of personal equipment, each such set comprising the items stipulated in sub-paragraphs(a)(i), (ii) and (iii) of that Regulation, to be carried, shall be as follows:
 - (1) two fireman's outfits; and in addition
 - (2) for every 80 metres (262 feet) or part thereof, of the aggregate of the lengths of all passenger spaces and service spaces on the deck which carries such spaces or, if there is more than one such deck, on the deck which has the largest aggregate of such lengths, two fireman's outfits and two sets of personal equipment, each such set comprising the items stipulated in Regulation 14(a)(i), (ii) and (iii) of this Chapter.
 - (ii) For each fireman's outfit which includes a self-contained breathing apparatus as provided in paragraph (b) of Regulation 14 of this Chapter, spare charges shall be carried on a scale approved by the Administration.
 - (iii) Fireman's outfits and sets of personal equipment shall be stored in widely separated positions ready for use. At least two fireman's outfits and one set of personal equipment shall be available at any one position.
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Regulation 48
Means of Escape

- (a) In and from all passenger and crew spaces and spaces in which crews are normally employed, other than machinery spaces, stairways and ladderways shall be arranged so as to provide ready means of escape to the lifeboat embarkation deck. In particular the following precautions shall be complied with:
- (i) below the bulkhead deck, two means of escape, at least one of which shall be independent of watertight doors, shall be provided for each watertight compartment or similarly restricted space or group of spaces. One of these means of escape may be dispensed with by the Administration, due regard being paid to the nature and the location of spaces concerned, and to the number of persons who normally might be quartered or employed there;
 - (ii) above the bulkhead deck, there shall be at least two practical means of escape from each main vertical zone or similarly restricted space or group of spaces at least one of which shall give access to a stairway forming a vertical escape; and
 - (iii) at least one of the means of escape shall be by means of a readily accessible enclosed stairway, which shall provide as far as practicable continuous fire shelter from the level of its origin to the lifeboat embarkation deck. The width, number and continuity of the stairways shall be to the satisfaction of the Administration.
- (b) In machinery spaces, two means of escape, one of which may be a watertight door, shall be provided from each engine room, shaft tunnel and boiler room. In machinery spaces, where no watertight door is available, the two means of escape shall be formed by two sets of steel ladders as widely separated as possible leading to doors in the casing similarly separated and from which access is provided to the embarkation deck. In the case of ships of less than 2,000 tons gross tonnage, the Administration may dispense with this requirement, due regard being paid to the width and the disposition of the casing.

Regulation 49
Oil Fuel Used for Internal Combustion Engines

No internal combustion engine shall be used for any fixed installation in a ship if its fuel has a flashpoint of 43deg.C (110deg.F) or less (closed cup test) as determined by an approved flashpoint apparatus.

Regulation 50
Special Arrangements in Machinery Spaces

- (a) Means shall be provided for stopping ventilating fans serving machinery and cargo spaces and for closing all doorways, ventilators, annular spaces around funnels and other
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openings to such spaces. These means shall be capable of being operated from outside such spaces in case of fire.

- (b) Machinery driving forced and induced draught fans, oil fuel transfer pumps, oil fuel unit pumps and other similar fuel pumps shall be fitted with remote controls situated outside the space concerned so that they may be stopped in the event of a fire arising in the space in which they are located.
- (c) Every oil fuel suction pipe from a storage, settling or daily service tank situated above the double bottom shall be fitted with a cock or valve capable of being closed from outside the space concerned in the event of a fire arising in the space in which such tanks are situated. In the special case of deep tanks situated in any shaft or pipe tunnel, valves on the tanks shall be fitted but control in event of fire may be effected by means of an additional valve on the pipeline or lines outside the tunnel or tunnels.

PART D
FIRE SAFETY MEASURES FOR CARGO SHIPS¹⁷

Regulation 51
General Requirements for Cargo Ships of 4,000 Tons Gross Tonnage and Upwards
Other than Tankers Covered by Part E of This Chapter

- (a) The hull, superstructure, structural bulkheads, decks and deckhouses shall be constructed of steel, except where the Administration may sanction the use of other suitable material in special cases, having in mind the risk of fire.
- (b) In accommodation spaces, the corridor bulkheads shall be of steel or be constructed of 'B' Class panels.
- (c) Deck coverings within accommodation spaces on the decks forming the crown of machinery and cargo spaces shall be of a type which will not readily ignite.¹⁸
- (d) Interior stairways below the weather deck shall be of steel or other suitable material. Crew lift trunks within accommodation shall be of steel or equivalent material.
- (e) Bulkheads of galleys, paint stores, lamp rooms, boatswain's stores when adjacent to accommodation spaces and emergency generator rooms if any, shall be of steel or equivalent material.

¹⁷ Reference is made to Recommendation on Safety Measures for Periodically Unattended Machinery Spaces of Cargo Ships additional to those normally considered necessary for an Attended Machinery Space, adopted by the Organization by Resolution A.211(VH).

¹⁸ Reference is made to Improved Provisional Guidelines on Test Procedures for Primary Deck Coverings, adopted by the Organization by Resolution A.214(VII).

- (f) In accommodation and machinery spaces, paints, varnishes and similar preparations having a nitro-cellulose or other highly inflammable base shall not be used.
- (g) Pipes conveying oil or combustible liquids shall be of a material approved by the Administration having regard to the fire risk. Materials readily rendered ineffective by heat shall not be used for overboard scuppers, sanitary discharges, and other outlets which are close to the water-line and where the failure of the material in the event of fire would give rise to danger of flooding.
- (h) Power ventilation of machinery spaces shall be capable of being stopped from an easily accessible position outside the machinery spaces.

Regulation 52
Fire-Extinguishing Systems and Equipment

(a) *Application*

Where ships have a lower gross tonnage than those quoted in this Regulation, the arrangements for the items covered in this Regulation shall be to the satisfaction of the Administration.

(b) *Fire pumps and fire main system*

The ship shall be provided with fire pumps, fire main system, hydrants and hoses complying with Regulation 5 of this Chapter and with the following requirements:

- (i) A ship of 1,000 tons gross tonnage and upwards shall be provided with two independently driven power pumps.
- (ii) In a ship of 1,000 tons gross tonnage and upwards if a fire in any one compartment could put all the pumps out of action, there must be an alternative means of providing water for firefighting. In a ship of 2,000 tons gross tonnage and upwards this alternative means shall be a fixed emergency pump independently driven. This emergency pump shall be capable of supplying two jets of water to the satisfaction of the Administration.

(c) *Fire hydrants, hoses and nozzles*

- (i) In a ship of 1,000 tons gross tonnage and upwards the number of fire hoses to be provided, each complete with couplings and nozzles, shall be one for each 30 metres (100 feet) length of the ship and one spare but in no case less than five in all. This number does not include any hoses required in any engine or boiler room. The Administration may increase the number of the hoses required so as to ensure that hoses in sufficient number are available and accessible at all times, having regard to the type of the ship and the nature of the trade on which the ship is employed.

- (ii) In accommodation, service and machinery spaces, the number and position of hydrants shall be such as to comply with the requirements of paragraph (d) of Regulation 5 of this Chapter.
- (iii) In a ship the arrangements shall be such that at least two jets of water can reach any part of any cargo space when empty.
- (iv) All required hydrants in the machinery spaces of ships with oil-fired boilers or internal combustion type propelling machinery shall be fitted with hoses having nozzles as required in paragraph (g) of Regulation 5 of this Chapter.

(d) *International shore connexion*

- (i) A ship of 1,000 tons gross tonnage and upwards shall be provided with at least one international shore connexion, complying with paragraph (h) of Regulation 5 of this Chapter.
- (ii) Facilities shall be available enabling such a connexion to be used on either side of the ship.

(e) *Portable fire extinguishers in accommodation and service spaces*

The ship shall be provided in accommodation and service spaces with such approved portable fire extinguishers as the Administration may deem to be appropriate and sufficient; in any case, their number shall not be less than five for ships of 1,000 tons gross tonnage and upwards.

(f) *Fixed fire-extinguishing arrangements in cargo spaces*

- (i) Cargo spaces of ships of 2,000 tons gross tonnage and upwards shall be protected by a fixed fire-extinguishing system complying with Regulation 8 of this Chapter.
- (ii) The Administration may exempt from the requirements of sub-paragraph (i) of this paragraph the cargo holds of any ship (other than the tanks of a tanker):
 - (1) if they are provided with steel hatch covers and effective means of closing all ventilators and other openings leading to the holds;
 - (2) if the ship is constructed and intended solely for carrying such cargoes as ore, coal or grain; or
 - (3) where it is shown to the satisfaction of the Administration that the ship is engaged on voyages of such short duration that it would be unreasonable to apply the requirement.

(iii) Every ship in addition to complying with the requirements of this Regulation shall, while carrying explosives of such nature or in such quantity as are not permitted to be carried in passenger ships under Regulation 7 of Chapter VII of this Convention comply with the following requirements:

- (1) Steam shall not be used in any compartment containing explosives. For the purpose of this sub-paragraph, "compartment" means all spaces contained between two adjacent permanent bulkheads and includes the lower hold and all cargo spaces above it.
- (2) In addition, in each compartment containing explosives and in adjacent cargo compartments, there shall be provided a smoke- or fire-detection system in each cargo space.

(g) *Fire-extinguishing appliances in boiler rooms, etc.*

Where main or auxiliary oil-fired boilers are situated, or in spaces containing oil fuel units or settling tanks, a ship of 1,000 tons gross tonnage and upwards shall be provided with the following arrangements:

- (i) There shall be any one of the following fixed fire-extinguishing installations:
 - (1) A pressure water-spraying system complying with Regulation 11 of this Chapter.
 - (2) A fire-extinguishing installation complying with Regulation 8 of this Chapter.
 - (3) A fixed froth installation complying with Regulation 9 of this Chapter. (The Administration may require fixed or mobile arrangements by pressure water or froth spraying to fight fire above the floor plates.)

In each case if the engine and boiler rooms are not entirely separate, or if fuel oil can drain from the boiler room into the engine room bilges, the combined engine and boiler rooms shall be considered as one compartment.

- (ii) There shall be at least two approved portable extinguishers discharging froth or other approved medium suitable for extinguishing oil fires in each firing space in each boiler room and each space in which a part of the oil fuel installation is situated. In addition, there shall be at least one extinguisher of the same description with a capacity of 9 litres (2 gallons) for each burner, provided that the total capacity of the additional extinguisher or extinguishers need not exceed 45 litres (10 gallons) for any one boiler room.
- (iii) In each firing space there shall be a receptacle containing sand, sawdust impregnated with soda, or other approved dry material in such quantity as may be required by the

Administration. Alternatively an approved portable extinguisher may be substituted therefor.

(h) *Fire-fighting appliances in spaces containing internal combustion type machinery*

Where internal combustion type engines are used, either for main propulsion machinery, or for auxiliary purposes associated with a total power output of not less than 746 kW, a ship of 1,000 tons gross tonnage and upwards shall be provided with the following arrangements:

- (i) There shall be one of the fixed arrangements required by sub-paragraph (g)(i) of this Regulation.
- (ii) There shall be in each engine space one approved froth-type extinguisher of not less than 45 litres (10 gallons) capacity or equivalent and also one approved portable froth extinguisher for each 746 kW of engine power output or part thereof; but the total number of portable extinguishers so supplied shall be not less than two and need not exceed six.

(i) *Fire-fighting arrangements in spaces containing steam turbines and not requiring any fixed installation*

The Administration shall give special consideration to the fire-extinguishing arrangements to be provided in spaces containing steam turbines which are separated from boiler rooms by watertight bulkheads.

(j) *Fireman's outfits and personal equipment*

- (i) The ship, whether new or existing, shall carry at least two fireman's outfits complying with the requirements of Regulation 14 of this Chapter. Furthermore, Administrations may require in large ships additional sets of personal equipment and in tankers and special ships such as factory ships additional fireman's outfits.
- (ii) For each fireman's outfit which includes a self-contained breathing apparatus as provided in paragraph (b) of Regulation 14 of this Chapter, spare charges shall be carried on a scale approved by the Administration.
- (iii) The fireman's outfits and personal equipment shall be stored so as to be easily accessible and ready for use and, where more than one fireman's outfit and set of personal equipment are carried, they shall be stored in widely separated positions.

Regulation 53
Means of Escape

- (a) In and from all crew and passenger spaces and spaces in which crew are normally employed, other than machinery spaces, stairways and ladders shall be arranged so as to provide ready means of escape to the lifeboat embarkation deck.
- (b) In machinery spaces, two means of escape, one of which may be a watertight door, shall be provided from each engine room, shaft tunnel and boiler room. In machinery spaces, where no watertight door is available, the two means of escape shall be formed by two sets of steel ladders as widely separated as possible leading to doors in the casing similarly separated and from which access is provided to the embarkation deck. In the case of ships of less than 2,000 tons gross tonnage, the Administration may dispense with this requirement, due regard being paid to the width and the disposition of the casing.

Regulation 54
Special Arrangements in Machinery Spaces

- (a) Means shall be provided for stopping ventilating fans serving machinery and cargo spaces and for closing all doorways, ventilators, annular spaces around funnels and other openings to such spaces. These means shall be capable of being operated from outside such spaces in case of fire.
- (b) Machinery driving forced and induced draught fans, oil fuel transfer pumps, oil fuel unit pumps and other similar fuel pumps shall be fitted with remote controls situated outside the space concerned so that they may be stopped in the event of a fire arising in the space in which they are located.
- (c) Every oil fuel suction pipe from a storage, settling or daily service tank situated above the double bottom shall be fitted with a cock or valve capable of being closed from outside the space concerned in the event of a fire arising in the space in which such tanks are situated. In the special case of deep tanks situated in any shaft or pipe tunnel, valves on the tanks shall be fitted but control in event of fire may be effected by means of an additional valve on the pipeline or lines outside the tunnel or tunnels.

PART E
FIRE SAFETY MEASURES FOR TANKERS

Regulation 55
Application

- (a) This Part shall apply to all new tankers carrying crude oil and petroleum products having a flashpoint not exceeding 60deg.C (140deg.F) (closed cup test) as determined by an
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approved flashpoint apparatus and whose Reid vapour pressure is below that of atmospheric pressure, and other liquid products having a similar fire hazard.

- (b) In addition, all ships covered by this Part shall comply with the requirements of Regulations 52, 53 and 54 of this Chapter, except that paragraph (f) of Regulation 52 need not apply to tankers complying with Regulation 60 of this Chapter.
- (c) Where cargoes other than those referred to in paragraph (a) of this Regulation which introduce additional fire hazards are intended to be carried, additional safety measures shall be required to the satisfaction of the Administration.
- (d) Combination carriers shall not carry solid cargoes unless all cargo tanks are empty of oil and gas freed or unless, in each case, the Administration is satisfied with the arrangements provided.

Regulation 56
Location and Separation of Spaces

- (a) Machinery spaces of Category A shall be positioned aft of cargo tanks and slop tanks and shall be isolated from them by a cofferdam, cargo pump room or oil fuel bunker tank; they shall also be situated aft of such cargo pump rooms and cofferdams, but not necessarily aft of the oil fuel bunker tanks. However, the lower portion of the pump room may be recessed into such spaces to accommodate pumps provided the deck head of the recess is in general not more than one-third of the moulded depth above the keel except that in the case of ships of not more than 25,000 metric tons deadweight, where it can be demonstrated that for reasons of access and satisfactory piping arrangements this is impracticable, the Administration may permit a recess in excess of such height, but not exceeding one half of the moulded depth above the keel.
- (b) Accommodation spaces, main cargo control stations, control stations and service spaces shall be positioned aft of all cargo tanks, slop tanks, cargo pump rooms and cofferdams which isolate cargo or slop tanks from machinery spaces of Category A. Any common bulkhead separating a cargo pump room, including the pump room entrance, from accommodation and service spaces and control stations shall be constructed to "A-60" Class. Where deemed necessary, accommodation spaces, control stations, machinery spaces other than those of Category A and service spaces may be permitted forward of all cargo tanks, slop tanks, cargo pump rooms and cofferdams subject to an equivalent standard of safety and appropriate availability of fire-extinguishing arrangements being provided to the satisfaction of the Administration.
- (c) Where the fitting of a navigation position above the cargo tank area is shown to be necessary it shall be for navigation purposes only and it shall be separated from the cargo tank deck by means of an open space with a height of at least 2 metres. The fire protection of such navigation position shall in addition be as required for control spaces

as set forth in paragraphs (a) and (b) of Regulation 57 and other provisions as applicable of this Part.

- (d) Means shall be provided to keep deck spills away from the accommodation and service areas. This may be accomplished by provision of a permanent continuous coaming of a suitable height extending from side to side. Special consideration shall be given to the arrangements associated with stern loading.
- (e) Exterior boundaries of superstructures and deckhouses enclosing accommodation and service spaces and including any overhanging decks which support such accommodation, shall be insulated to "A-60" Class for the whole of the portions which face cargo oil tanks and for 3 metres aft of the front boundary. In the case of the sides of these superstructures and deckhouses, such insulation shall be carried as high as is deemed necessary by the Administration.
- (f) In boundaries, facing cargo tanks, of superstructures and deckhouses containing accommodation and service spaces the following provisions shall apply:
 - (i) No doors shall be permitted in such boundaries, except that doors to those spaces not having access to accommodation and service spaces, such as cargo control stations, provision rooms, and store-rooms may be permitted by the Administration. Where such doors are fitted, the boundaries of the space shall be insulated to "A-60" Class. Bolted plates for removal of machinery may be fitted in such boundaries.
 - (ii) Portlights in such boundaries shall be of a fixed (non-opening) type. Pilot house windows may be non-fixed (opening).
 - (iii) Portlights in the first tier on the main deck shall be fitted with inside covers of steel or equivalent material.

The requirements of this paragraph, where applicable, except in the case of access to the navigating bridge spaces, shall also be applied to the boundaries of the superstructures and deckhouses for a distance of 5 metres measured longitudinally from the forward end of such structures.

Regulation 57
Construction

- (a)
 - (i) The hull, superstructure, structural bulkheads, decks and deckhouses shall be constructed of steel or other equivalent material.
 - (ii) Bulkheads between cargo pump rooms, including their trunks and machinery spaces of Category A shall be 'A' Class and shall have no penetrations which are less than

"A-0" Class or equivalent in all respects, other than the cargo pump shaft glands and similar glanded penetrations.

- (iii) Bulkheads and decks forming divisions separating machinery spaces of Category A and cargo pump rooms, including their trunks, respectively, from the accommodation and service spaces shall be of "A-60" Class. Such bulkheads and decks and any boundaries of machinery spaces of Category A and cargo pump rooms shall not be pierced for windows or portlights.
- (iv) The requirements of sub-paragraphs (ii) and (iii) of this paragraph, however, do not preclude the installation of permanent approved gas-tight lighting enclosures for illuminating the pump rooms provided that they are of adequate strength and maintain the integrity and gas-tightness of the bulkhead as 'A' Class. Further, it does not preclude the use of windows in a control room located entirely within a machinery space.
- (v) Control stations shall be separated from adjacent enclosed spaces by means of 'A' Class bulkheads and decks. The insulation of these control station boundaries shall be to the satisfaction of the Administration having in mind the risk of fire in adjacent spaces.
- (vi) Casing doors in machinery spaces of Category A shall be self-closing and comply with the related provisions of sub-paragraph (b)(vii) of this Regulation.
- (vii) The surface of the insulation on interior boundaries of machinery spaces of Category A shall be impervious to oil and oil vapour.
- (viii) Primary deck coverings, if applied, shall be of approved materials which will not readily ignite.¹⁹
- (ix) Interior stairways shall be of steel or other suitable material.
- (x) When adjacent to accommodation spaces, bulkheads of galleys, paint stores, lamp rooms and boatswain's stores shall be of steel or equivalent material.
- (xi) Paints, varnishes and other finishes used on exposed interior surfaces shall not be of a nature to offer an undue fire hazard in the judgement of the Administration and shall not be capable of producing excessive quantities of smoke or other toxic properties.
- (xii) Pipes conveying oil or combustible liquids shall be of a material approved by the Administration having regard to the fire risk. Materials readily rendered ineffective by heat shall not be used for overboard scuppers, sanitary discharges, and other

¹⁹ Reference is made to Improved Provisional Guidelines on Test Procedures for Primary Deck Coverings, adopted by the Organization by Resolution A.214(VII)

outlets which are close to the water-line and where the failure of the material in the event of fire would give rise to danger of flooding.

- (xiii) Power ventilation of machinery spaces shall be capable of being stopped from an easily accessible position outside the machinery spaces.
- (xiv) Skylights to machinery spaces of Category A and cargo pump rooms shall comply with the provisions of sub-paragraph (a)(iii) of this Regulation in respect of windows and portlights and in addition shall be so arranged as to be capable of being readily closed from outside the spaces which they service.
- (b) Within the accommodation and service spaces and control stations the following conditions shall apply:
- (i) Corridor bulkheads including doors shall be of 'A' or 'B' Class divisions extending from deck to deck. Where continuous 'B' Class ceilings and/or linings are fitted on both sides of the bulkhead, the bulkhead may terminate at the continuous ceiling or lining. Doors of cabins and public spaces in such bulkheads may have a louvre in the lower half.
- (ii) Air spaces enclosed behind ceilings, panellings, or linings shall be divided by close fitting draught stops spaced not more than 14 metres apart.
- (iii) Ceilings, linings, bulkheads and insulation except for insulation in refrigerated compartments shall be of non-combustible material. Vapour barriers and adhesives used in conjunction with insulation, as well as insulation of pipe fittings for cold service systems need not be non-combustible, but they shall be kept to the minimum quantity practicable and their exposed surfaces shall have resistance to propagation of flame to the satisfaction of the Administration.
- (iv) The framing, including grounds and the joint pieces of bulkheads, linings, ceilings and draught stops, if fitted, shall be of non-combustible material.
- (v) All exposed surfaces in corridors and stairway enclosures and surfaces in concealed or inaccessible spaces shall have low flame-spread characteristics.²⁰
- (vi) Bulkheads, linings and ceilings may have combustible veneer, provided that such veneer shall not exceed 2 millimetres within any such space except corridors, stairway enclosures and control stations where it shall not exceed 1.5 millimetres.
- (iv) Stairways which penetrate only a single deck shall be protected at least at one level by 'A' or 'B' Class divisions and self-closing doors so as to limit the rapid spread of fire from one deck to another. Crew lift trunks shall be of 'A' Class divisions. Stairways

²⁰ Reference is made to Guidelines on Evaluation of Fire Hazard Properties of Materials, adopted by the Organization by Resolution A.166(ES.IV)

and lift trunks which penetrate more than a single deck shall be surrounded by 'A' Class divisions and protected by self-closing steel doors at all levels. Self-closing doors shall not be fitted with hold-back hooks. However, hold-back arrangements fitted with remote release fittings of the fail-safe type may be utilized.

- (c) Ducts provided for ventilation of machinery spaces of Category 'A' shall not in general pass through accommodation and service spaces or control stations, except that the Administration may permit relaxation from this requirement provided that:
 - (i) the ducts are constructed of steel and each is insulated to "A-60" Class; or
 - (ii) the ducts are constructed of steel and are fitted with an automatic fire damper close to the boundary penetrated and are insulated to "A-60" Class from the machinery space of Category A to a point at least 5 metres beyond the fire damper.
- (d) Ducts provided for ventilation of accommodation and service spaces or control stations shall not in general pass through machinery spaces of Category A except that the Administration may permit relaxation from this requirement provided that ducts are constructed of steel and an automatic fire damper is fitted close to the boundaries penetrated.

Regulation 58
Ventilation

- (a) The arrangement and positioning of openings in the cargo tank deck from which gas emission can occur shall be such as to minimize the possibility of gas being admitted to enclosed spaces containing a source of ignition, or collecting in the vicinity of deck machinery and equipment which may constitute an ignition hazard. In every case the height of the outlet above the deck and the discharge velocity of the gas shall be considered in conjunction with the distance of any outlet from any deckhouse opening or source of ignition.
- (b) The arrangement of ventilation inlets and outlets and other deckhouse and superstructure boundary space openings shall be such as to complement the provisions of paragraph (a) of this Regulation. Such vents especially for machinery spaces shall be situated as far aft as practicable. Due consideration in this regard should be given when the ship is equipped to load or discharge at the stern. Sources of ignition such as electrical equipment shall be so arranged as to avoid an explosion hazard.
- (c) Cargo pump rooms shall be mechanically ventilated and discharges from the exhaust fans shall be led to a safe place on the open deck. The ventilation of these rooms shall have sufficient capacity to minimize the possibility of accumulation of inflammable vapours. The number of changes of air shall be at least 20 times per hour, based upon the gross volume of the space. The air ducts shall be arranged so that all of the space is effectively ventilated. The ventilation shall be of the suction type.

Regulation 59
Means of Escape

In addition to the requirements of paragraph (a) of Regulation 53 of this Chapter, consideration shall be given by the Administration to the availability of emergency means of escape for personnel from each cabin.

Regulation 60
Cargo Tank Protection

- (a) For tankers of 100,000 metric tons deadweight and upwards and combination carriers of 50,000 metric tons deadweight and upwards, the protection of the cargo tanks deck area and cargo tanks shall be achieved by a fixed deck froth system and a fixed inert gas system in accordance with the requirements of Regulations 61 and 62 of this Part except that in lieu of the above installations the Administration, after having given consideration to the ship arrangement and equipment, may accept other combinations of fixed installations if they afford protection equivalent to the above, in accordance with Regulation 5 of Chapter I of this Convention.
- (b) To be considered equivalent, the system proposed in lieu of the deck froth system shall:
- (i) be capable of extinguishing spill fires and also preclude ignition of spilled oil not yet ignited; and
 - (ii) be capable of combating fires in ruptured tanks.
- (c) To be considered equivalent, the system proposed in lieu of the fixed inert gas system shall:
- (i) be capable of preventing dangerous accumulations of explosive mixtures in intact cargo tanks during normal service throughout the ballast voyage and necessary in-tank operations; and
 - (ii) be so designed as to minimize the risk of ignition from the generation of static electricity by the system itself.
- (d) In tankers of less than 100,000 metric tons deadweight and combination carriers of less than 50,000 metric tons deadweight the Administration, in applying the requirements of paragraph (f) of Regulation 52 of this Chapter, may accept a froth system, capable of discharging froth internally or externally, to the tanks. The details of such installation shall be to the satisfaction of the Administration.

Regulation 61
Fixed Deck Froth System

The fixed deck froth system referred to in paragraph (a) of Regulation 60 of this Chapter shall be designed as follows:

- (a) The arrangements for providing froth shall be capable of delivering froth to the entire cargo tank area as well as into any cargo tank, the deck of which has been ruptured.
- (b) The system shall be capable of simple and rapid operation. The main control station for the system shall be suitably located outside of the cargo tank area, adjacent to the accommodation spaces and readily accessible and operable in the event of fire in the areas protected.
- (c) The rate of supply of froth solution shall be not less than the greater of the following:
 - (i) 0.6 litres per minute per square metre of the cargo deck area, where cargo deck area means the maximum breadth of the ship times the total longitudinal extent of the cargo tank spaces, or
 - (ii) 6 litres per minute per square metre of the horizontal sectional area of the single tank having the largest such area.

Sufficient froth concentrate shall be supplied to ensure at least 20 minutes of froth generation when using solution rates stipulated in sub-paragraph (i) or (ii) of this paragraph, whichever is the greater. The froth expansion ratio (i.e. the ratio of the volume of froth produced to the volume of the mixture of water and froth-making concentrate supplied) shall not generally exceed 12 to 1. Where systems essentially produce low expansion froth but at an expansion ratio slightly in excess of 12 to 1, the quantity of froth solution available shall be calculated as for 12 to 1 expansion ratio systems. When medium expansion ratio froth (between 50 to 1 and 150 to 1 expansion ratio) is employed the application rate of the froth and the capacity of a monitor installation shall be to the satisfaction of the Administration.

- (d) Froth from the fixed froth system shall be supplied by means of monitors and froth applicators. At least 50 per cent of the required froth rate shall be delivered from each monitor.
- (e)
 - (i) The number and position of monitors shall be such as to comply with paragraph (a) of this Regulation. The capacity of any monitor in litres per minute of froth solution shall be at least three times the deck area in square metres protected by that monitor, such area being entirely forward of the monitor.

- (ii) The distance from the monitor to the farthest extremity of the protected area forward of that monitor shall not be more than 75 per cent of the monitor throw in still air conditions.
- (f) A monitor and hose connexion for a froth applicator shall be situated both port and starboard at the poop front or accommodation spaces facing the cargo deck. Applicators shall be provided for flexibility of action during fire-fighting operations and to cover areas screened from the monitors.
- (g) Valves shall be provided in both the froth main and the fire main immediately forward of every monitor position to isolate damaged sections of these mains.
- (h) Operation of a deck froth system at its required output shall permit the simultaneous use of the minimum required number of jets of water at the required pressure from the fire main.

Regulation 62
Inert Gas System

The inert gas system referred to in paragraph (a) of Regulation 60 of this Chapter shall be capable of providing on demand a gas or mixture of gases to the cargo tanks so deficient in oxygen that the atmosphere within a tank may be rendered inert, i.e. incapable of propagating flame. Such a system shall satisfy the following conditions:

- (a) The need for fresh air to enter a tank during normal operations shall be eliminated, except when preparing a tank for entry by personnel.
- (b) Empty tanks shall be capable of being purged with inert gas to reduce the hydrocarbon content of a tank after discharge of cargo.
- (c) The washing of tanks shall be capable of being carried out in an inert atmosphere.
- (d) During cargo discharge, the system shall be such as to ensure that the volume of gas referred to in paragraph (f) of this Regulation is available. At other times sufficient gas to ensure compliance with paragraph (g) of this Regulation shall be continuously available.
- (e) Suitable means for purging the tanks with fresh air as well as with inert gas shall be provided.
- (f) The system shall be capable of supplying inert gas at a rate of at least 125 per cent of the maximum rated capacity of the cargo pumps.
- (g) Under normal running conditions, when tanks are being filled or have been filled with inert gas, a positive pressure shall be capable of being maintained at the tank.

- (h) Exhaust gas outlets for purging shall be suitably located in the open air and shall be to the same general requirements as prescribed for ventilating outlets of tanks, referred to in paragraph (a) of Regulation 58 of this Chapter.
 - (i) A scrubber shall be provided which will effectively cool the gas and remove solids and sulphur combustion products.
 - (j) At least two fans (blowers) shall be provided which together shall be capable of delivering at least the amount of gas stipulated in paragraph (f) of this Regulation.
 - (k) The oxygen content in the inert gas supply shall not normally exceed 5 per cent by volume.
 - (l) Means shall be provided to prevent the return of hydrocarbon gases or vapours from the tanks to the machinery spaces and uptakes and prevent the development of excessive pressure or vacuum. In addition, an effective water lock shall be installed at the scrubber or on deck. Branch piping for inert gas shall be fitted with stop valves or equivalent means of control at every tank. The system shall be so designed as to minimize the risk of ignition from the generation of static electricity.
 - (m) Instrumentation shall be fitted for continuously indicating and permanently recording at all times when inert gas is being supplied the pressure and oxygen content of the gas in the inert gas supply main on the discharge side of the fan. Such instrumentation should preferably be placed in the cargo control room if fitted but in any case shall be easily accessible to the officer in charge of cargo operations. Portable instruments suitable for measuring oxygen and hydrocarbon gases or vapour and the necessary tank fittings shall be provided for monitoring the tank contents.
 - (n) Means for indicating the temperature and pressure of the inert gas main shall be provided.
 - (o) Alarms shall be provided to indicate:
 - (i) high oxygen content of gas in the inert gas main;
 - (ii) low gas pressure in the inert gas main;
 - (iii) low pressure in the supply to the deck water seal, if such equipment is installed;
 - (iv) high temperature of gas in the inert gas main; and
 - (v) low water pressure to the scrubber;
 - (vi) and automatic shut-downs of the system shall be arranged on predetermined limits being reached in respect of sub-paragraphs (iii), (iv) and (v) of this paragraph.
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- (p) The master of any ship equipped with an inert gas system shall be provided with an instruction manual covering operational, safety and occupational health requirements relevant to the system.

Regulation 63
Cargo Pump Room

Each cargo pump room shall be provided with a fixed fire-fighting system operated from a readily accessible position outside the pump room. The system shall use water-spray or another suitable medium satisfactory to the Administration.

Regulation 64
Hose Nozzles

All hose water nozzles provided shall be of an approved dual purpose type (i.e. spray/jet type) incorporating a shut-off.

PART F
SPECIAL FIRE SAFETY MEASURES FOR EXISTING PASSENGER SHIPS

(For the purposes of this Part of this Chapter, all references to Regulation ... (1948) mean references to Regulations of Chapter II of the International Convention for the Safety of Life at Sea, 1948, and all references to Regulation ... (1960) mean, unless otherwise stated, references to Regulations of Chapter II of the International Convention for the Safety of Life at Sea, 1960).

Regulation 65
Application

Any passenger ship carrying more than 36 passengers shall at least comply as follows:

- (a) A ship, the keel of which was laid before 19 November 1952, shall comply with the provisions of Regulations 66 to 85 inclusive of this Part.
- (b) A ship, the keel of which was laid on or after 19 November 1952 but before 26 May 1965, shall comply with the provisions of the International Convention for the Safety of Life at Sea, 1948, relating to the fire safety measures applicable in that Convention to new ships and shall also comply with the provisions of Regulations 68(b) and (c), 75, 77(b), 78, 80(b), 81(b) to (g), 84 and 85 of this Part.
- (c) A ship, the keel of which was laid on or after 26 May 1965, but before the present Convention comes into force, shall, unless it complies with Parts A and B of this Chapter, comply with the provisions of the International Convention for the Safety of Life at Sea, 1960 relating to the fire safety measures applicable in that Convention to new ships and

shall also comply with Regulations 68(b) and (c), 80(b), 81(b), (c) and (d) and 85 of this Part.

Regulation 66
Structure

The structural components shall be of steel or other suitable material in compliance with Regulation 27 (1948), except that isolated deckhouses containing no accommodation and decks exposed to the weather may be of wood if structural fire protection measures are taken to the satisfaction of the Administration.

Regulation 67
Main Vertical Zones

The ship shall be subdivided by 'A' Class divisions into main vertical zones in compliance with Regulation 28 (1948). Such divisions shall have as far as practicable adequate insulating value, taking into account the nature of the adjacent spaces as provided for in Regulation 26(c)(iv) (1948).

Regulation 68
Openings in Main Vertical Zone Bulkheads

- (a) The ship shall comply substantially with Regulation 29 (1948).
- (b) Fire doors shall be of steel or equivalent material with or without non-combustible insulation.
- (c) In the case of ventilation trunks and ducts having a cross-sectional area of 0.02 square metres (31 square inches) or more which pass through main zone divisions, the following additional provisions shall apply:
 - (i) for trunks and ducts having cross-sectional areas between 0.02 square metres (31 square inches) and 0.075 square metres (116 square inches) inclusive, fire dampers shall be of a fail-safe automatic closing type, or such trunks and ducts shall be insulated for at least 457 millimetres (18 inches) on each side of the division to meet the applicable bulkhead requirements;
 - (ii) for trunks and ducts having a cross-sectional area exceeding 0.075 square metres (116 square inches), fire dampers shall be of a fail-safe automatic closing type.

Regulation 69
Separation of Accommodation Spaces from Machinery, Cargo and Service Spaces

The ship shall comply with Regulation 31 (1948).

Regulation 70
Application Relative to Methods I, II and III

Each accommodation space and service space in a ship shall comply with all the provisions stipulated in one of the paragraphs (a), (b), (c) or (d) of this Regulation:

- (a) When a ship is being considered for acceptance in the context of Method I, a network of non-combustible 'B' Class bulkheads shall be provided in substantial compliance with Regulation 30(a) (1948) together with maximum use of non-combustible materials in compliance with Regulation 39(a) (1948).
- (b) When a ship is being considered for acceptance in the context of Method II:
 - (i) an automatic sprinkler and fire alarm system shall be provided which shall be in substantial compliance with Regulations 42 and 48 (1948), and
 - (ii) the use of combustible materials of all kinds shall be reduced as far as is reasonable and practicable.
- (c) When a ship is being considered for acceptance in the context of Method III, a network of fire-retarding bulkheads shall be fitted from deck to deck in substantial compliance with Regulation 30(b) (1948), together with an automatic fire detection system in substantial compliance with Regulation 43 (1948). The use of combustible and highly inflammable materials shall be restricted as prescribed in Regulations 39(b) and 40(g) (1948). Departure from the requirements of Regulations 39(b) and 40(g) (1948) may be permitted if a fire patrol is provided at intervals not exceeding 20 minutes.
- (d) When a ship is being considered for acceptance in the context of Method III:
 - (i) additional 'A' Class divisions shall be provided within the accommodation spaces in order to reduce in these spaces the mean length of the main vertical zones to about 20 metres (65.5 feet); and
 - (ii) an automatic fire detection system shall be provided in substantial compliance with Regulation 43 (1948); and
 - (iii) all exposed surfaces, and their coatings; of corridor and cabin bulkheads in accommodation spaces shall be of limited flame-spreading power; and
 - (iv) the use of combustible materials shall be restricted as prescribed in Regulation 39(b) (1948). Departure from the requirements of Regulation 39(b) (1948) may be permitted if a fire patrol is provided at intervals not exceeding 20 minutes; and
 - (v) additional non-combustible 'B' Class divisions shall be fitted from deck to deck forming a network of fire-retarding bulkheads within which the area of any

compartment, except public spaces, will in general not exceed 300 square metres (3,200 square feet).

Regulation 71
Protection of Vertical Stairways

The stairways shall comply with Regulation 33 (1948) except that, in cases of exceptional difficulty, the Administration may permit the use of non-combustible 'B' Class divisions and doors instead of 'A' Class divisions and doors for stairway enclosures. Moreover, the Administration may permit exceptionally the retention of a wooden stairway subject to its being sprinkler-protected and satisfactorily enclosed.

Regulation 72
Protection of Lifts (Passenger and Service), Vertical Trunks for Light and Air, etc.

The ship shall comply with Regulation 34 (1948).

Regulation 73
Protection of Control Stations

The ship shall comply with Regulation 35 (1948), except however that in cases where the disposition or construction of control stations is such as to preclude full compliance, e.g. timber construction of wheelhouse, the Administration may permit the use of free-standing non-combustible 'B' Class divisions to protect the boundaries of such control stations. In such cases, where spaces immediately below such control stations constitute a significant time hazard, the deck between shall be fully insulated as an 'A' Class division.

Regulation 74
Protection of Store-Rooms, etc.

The ship shall comply with Regulation 36 (1948).

Regulation 75
Windows and Sidescuttles

Skylights of engine and boiler spaces shall be capable of being closed from outside such spaces.

Regulation 76
Ventilation Systems

- (a) All power ventilation, except cargo and machinery space ventilation, shall be fitted with master controls so located outside the machinery space and in readily accessible positions, that it shall not be necessary to go to more than three stations in order to stop

all the ventilation fans to spaces other than machinery and cargo spaces. Machinery space ventilation shall be provided with a master control operable from a position outside the machinery space.

- (b) Efficient insulation shall be provided for exhaust ducts from galley ranges where the ducts pass through accommodation spaces.

Regulation 77
Miscellaneous Items

- (a) The ship shall comply with Regulation 40(a), (b) and (f) (1948), except that in Regulation 40(a)(i) (1948), 20 metres (65.5 feet) may be substituted for 13.73 metres (45 feet).
- (b) Fuel pumps shall be fitted with remote controls situated outside the space concerned so that they may be stopped in the event of a fire arising in the space in which they are located.

Regulation 78
Cinematograph Film

Cellulose-nitrate-based film shall not be used in cinematograph installations on board ship.

Regulation 79
Plans

Plans shall be provided in compliance with Regulation 44 (1948).

Regulation 80
Pumps, Fire Main Systems, Hydrants and Hoses

- (a) The provisions of Regulation 45 (1948) shall be complied with.
- (b) Water from the fire main shall, as far as practicable, be immediately available, such as by maintenance of pressure or by remote control of fire pumps, which control shall be easily operable and readily accessible.

Regulation 81
Fire Detection and Extinction Requirements

General

- (a) The requirements of Regulation 50(a) to (o) (1948) inclusive shall be complied with, subject to further provisions of this Regulation.

Patrols, detection and communication system

- (b) Each member of any fire patrol required by this Part shall be trained to be familiar with the arrangements of the ship as well as the location and operation of any equipment he may be called upon to use.
- (c) A special alarm to summon the crew shall be fitted which may be part of the ship's general alarm system.
- (d) A public address system or other effective means of communication shall also be available throughout the accommodation, public and service spaces.

Machinery and boiler spaces

- (e) The number, type and distribution of fire extinguishers shall comply with paragraphs (g)(ii), (g)(iii) and (h)(ii) of Regulation 64 (1960).

International shore connexion

- (f) The provisions of Regulation 64(d) (1960) shall be complied with.

Fireman's outfits

- (g) The provisions of Regulation 64(j) (1960) shall be complied with.

Regulation 82

Ready availability of fire-fighting appliances

The provisions of Regulation 66 (1960) shall be complied with.

Regulation 83

Means of Escape

The provisions of Regulation 54 (1948) shall be complied with.

Regulation 84

Emergency Source of Electrical Power

The provisions of Regulation 22(a), (b) and (c) (1948) shall be complied with except that the location of the emergency source of electrical power shall be in accordance with the requirements of Regulation 25(a) (1960).

Regulation 85
Practice Musters and Drills

At the fire drills mentioned in Regulation 26 of Chapter III of the International Convention for the Safety of Life at Sea, 1960 each member of the crew shall be required to demonstrate his familiarity with the arrangements and facilities of the ship, his duties, and any equipment he may be called upon to use. Masters shall be required to familiarize and instruct the crews in this regard.

CHAPTER III
LIFE-SAVING APPLIANCES, ETC.

Regulation 1
Application

- (a) This Chapter, except where it is otherwise expressly provided, applies as follows to new ships engaged on international voyages:
- Part A - Passenger ships and cargo ships.
 - Part B - Passenger ships.
 - Part C - Cargo ships.
- (b) In the case of existing ships engaged on international voyages, the keels of which were laid or which were at a similar stage of construction on or after the date of coming into force of the International Convention for the Safety of Life at Sea, 1960, the requirements of Chapter III of that Convention applicable to new ships as defined in that Convention shall apply.
- (c) In the case of existing ships engaged on international voyages, the keels of which were laid or which were at a similar stage of construction before the date of coming into force of the International Convention for the Safety of Life at Sea, 1960, and which do not already comply with the provisions of Chapter III of that Convention relating to new ships, the arrangements in each ship shall be considered by the Administration with a view to securing, so far as this is practicable and reasonable, and as early as possible, substantial compliance with the requirements of Chapter III of that Convention. The proviso to sub-paragraph (b)(i) of Regulation 27 of that Chapter may, however, be applied to existing ships referred to in this paragraph only if:
- (i) the provisions of Regulations 4, 8, 14, 18 and 19 and paragraphs (a) and (b) of Regulation 27 of this Chapter are complied with;
 - (ii) the liferafts carried in accordance with the provisions of paragraph (b) of Regulation 27 comply with the requirements of either Regulation 15 or Regulation 16, and of Regulation 17 of this Chapter; and
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(iii) the total number of persons on board shall not be increased as the result of the provision of liferafts unless the ship fully complies with the provisions of:

- (1) Part B of Chapter II-1;
- (2) sub-paragraphs (a)(iii) and (iv) of Regulation 21 or sub-paragraph (a)(iii) of Regulation 48 of Chapter II-2, as applicable; and
- (3) paragraphs (a), (b), (e) and (f) of Regulation 29 of this Chapter.

PART A GENERAL

(Part A applies to both passenger ships and cargo ships)

Regulation 2 Definitions

For the purpose of this Chapter:

- (a) "Short international voyage" means an international voyage in the course of which a ship is not more than 200 miles from a port or place in which the passengers and crew could be placed in safety, and which does not exceed 600 miles in length between the last port of call in the country in which the voyage begins and the final port of destination.
- (b) "Liferaft" means a liferaft complying with either Regulation 15 or Regulation 16 of this Chapter.
- (c) "Approved launching device" means a device approved by the Administration, capable of launching from the embarkation position a liferaft fully loaded with the number of persons it is permitted to carry and with its equipment.
- (d) "Certificated lifeboatman" means any member of the crew who holds a certificate of efficiency issued under the provisions of Regulation 32 of this Chapter.
- (e) "Buoyant apparatus" means flotation equipment (other than lifeboats, liferafts, lifebuoys and life-jackets) designed to support a specified number of persons who are in the water and of such construction that it retains its shape and properties.

Regulation 3 Exemptions

- (a) The Administration, if it considers that the sheltered nature and conditions of the voyage are such as to render the application of the full requirements of this Chapter unreasonable or unnecessary, may to that extent exempt from the requirements of this Chapter
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individual ships or classes of ships which, in the course of their voyage, do not go more than 20 miles from the nearest land.

- (b) In the case of passenger ships which are employed in special trades for the carriage of large numbers of special trade passengers, such as the pilgrim trade, the Administration, if satisfied that it is impracticable to enforce compliance with the requirements of this Chapter, may exempt such ships, when they belong to its country, from those requirements, provided that they comply fully with the provisions of:
- (i) the Rules annexed to the Special Trade Passenger Ships Agreement, 1971; and
 - (ii) the Rules annexed to the Protocol on Space Requirements for Special Trade Passenger Ships, 1973, when it enters into force.

Regulation 4

Ready Availability of Lifeboats, Liferrafts and Buoyant Apparatus

- (a) The general principle governing the provision of lifeboats, liferafts and buoyant apparatus in a ship to which this Chapter applies is that they shall be readily available in case of emergency.
- (b) To be readily available, the lifeboats, liferafts and buoyant apparatus shall comply with the following conditions:
- (i) they shall be capable of being put into the water safely and rapidly even under unfavourable conditions of trim and of 15 degree of list;
 - (ii) it shall be possible to effect embarkation into the lifeboats and liferafts rapidly and in good order;
 - (iii) the arrangement of each lifeboat, liferaft and article of buoyant apparatus shall be such that it will not interfere with the operation of other boats, liferafts and buoyant apparatus.
- (c) All the life-saving appliances shall be kept in working order and available for immediate use before the ship leaves port and at all times during the voyage.

Regulation 5

Construction of Lifeboats

- (a) All lifeboats shall be properly constructed and shall be of such form and proportions that they shall have ample stability in a seaway, and sufficient freeboard when loaded with their full complement of persons and equipment. All lifeboats shall be capable of maintaining positive stability when open to the sea and loaded with their full complement of persons and equipment.
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- (b)
- (i) All lifeboats shall have rigid sides and internal buoyancy only. The Administration may approve lifeboats with a rigid shelter, provided that it may be readily opened from both inside and outside, and does not impede rapid embarkation and disembarkation or the launching and handling of the lifeboat.
 - (ii) Motor lifeboats may be fitted to the satisfaction of the Administration with a means for preventing the entry of water at the fore end.
 - (iii) All lifeboats shall be not less than 7.3 metres (24 feet) in length except where owing to the size of the ship, or for other reasons, the Administration considers the carriage of such lifeboats unreasonable or impracticable. In no ship shall the lifeboats be less than 4.9 metres (16 feet) in length.
- (c) No lifeboat may be approved the weight of which when fully laden with persons and equipment exceeds 20,300 kilogrammes (20 tons) or which has a carrying capacity calculated in accordance with Regulation 7 of this Chapter of more than 150 persons.
- (d) All lifeboats permitted to carry more than 60 persons but not more than 100 persons shall be either motor lifeboats complying with the requirements of Regulation 9 of this Chapter or be lifeboats fitted with an approved means of mechanical propulsion complying with Regulation 10 of this Chapter. All lifeboats permitted to carry more than 100 persons shall be motor lifeboats complying with the requirements of Regulation 9 of this Chapter.
- (e) All lifeboats shall be of sufficient strength to enable them to be safely lowered into the water when loaded with their full complement of persons and equipment. All lifeboats shall be of such strength that they will not suffer residual deflection if subjected to an overload of 25 per cent.
- (f) All lifeboats shall have a mean sheer at least equal to 4 per cent of their length. The sheer shall be approximately parabolic in form.
- (g) In lifeboats permitted to carry 100 or more persons the volume of the buoyancy shall be increased to the satisfaction of the Administration.
- (h) All lifeboats shall have inherent buoyancy, or shall be fitted with watertight air cases or other equivalent non-corrodible buoyant material which shall not be adversely affected by oil or oil products, sufficient to float the boat and its equipment when the boat is flooded and open to the sea. An additional volume of watertight air cases or other equivalent non-corrodible buoyant material, which shall not be adversely affected by oil or oil products, equal to at least one-tenth of the cubic capacity of the boat shall also be provided. The Administration may permit the watertight air cases to be filled with a non-corrodible buoyant material which shall not be adversely affected by oil or oil products.
- (i) All thwarts and side-seats shall be fitted as low in the lifeboat as practicable.
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- (j) The block coefficient of the cubic capacity as determined in accordance with Regulation 6 of this Chapter of all lifeboats, except wooden lifeboats made of planks, shall be not less than 0.64 provided that any such lifeboat may have a block coefficient of less than 0.64 if the Administration is satisfied with the sufficiency of the metacentric height and freeboard when the lifeboat is loaded with its full complement of persons and equipment.

Regulation 6
Cubic Capacity of Lifeboats

- (a) The cubic capacity of a lifeboat shall be determined by Simpson's (Stirling's) Rule or by any other method giving the same degree of accuracy. The capacity of a square-sterned lifeboat shall be calculated as if the lifeboat had a pointed stern.
- (b) For example, the capacity in cubic metres (or cubic feet) of a lifeboat, calculated by the aid of Simpson's Rule, may be considered as given by the following formula:

$$\text{Capacity} = \frac{L}{12}(4A + 2B + 4C)$$

L being the length of the lifeboat in metres (or feet) from the inside of the planking or plating at the stem to the corresponding point at the stern post: in the case of a lifeboat with a square stern, the length is measured to the inside of the transom.

A, B, C denote respectively the areas of the cross-sections at the quarter-length forward, amidships, and the quarter-length aft, which correspond to the three points obtained by dividing L into four equal parts. (The areas corresponding to the two ends of the lifeboat are considered negligible.)

The areas A, B, C shall be deemed to be given in square metres (or square feet) by the successive application of the following formula to each of the three cross-sections:

$$\text{Area} = \frac{\square}{12}(a + 4b + 2c + 4d + e),$$

h being the depth measured in metres (or in feet) inside the planking or plating from the keel to the level of the gunwale, or, in certain cases, to a lower level as determined hereafter.

[Letter symbols] a, b, c, d, e denote the horizontal breadths of the lifeboat measured in metres (or in feet) at the upper and lower points of the depth and at the three points obtained by dividing h into four equal parts (a and e being the breadths at the extreme point, and c at the middle point of h).

- (c) If the sheer of the gunwale, measured at the two points situated at a quarter of the length of the lifeboat from the ends, exceeds 1 per cent of the length of the lifeboat the depth employed in calculating the area of the cross-sections A or C shall be deemed to be the depth amidships plus 1 per cent of the length of the lifeboat.

- (d) If the depth of the lifeboat amidships exceeds 45 per cent of the breadth, the depth employed in calculating the area of the amidship cross-section B shall be deemed to be equal to 45 per cent of the breadth, and the depth employed in calculating the areas of the quarter-length sections A and C is obtained by increasing this last figure by an amount equal to 1 per cent of the length of the lifeboat, provided that in no case shall the depths employed in the calculation exceed the actual depths at these points.
- (e) If the depth of the lifeboat is greater than 1.22 metres (4 feet) the number of persons given by the application of this Rule shall be reduced in proportion to the ratio of 1.22 metres (4 feet) to the actual depth, until the lifeboat has been satisfactorily tested afloat with that number of persons on board, all wearing life-jackets.
- (f) The Administration shall impose, by suitable formulae, a limit for the number of persons allowed in lifeboats with very fine ends and in lifeboats very full in form.
- (g) The Administration may assign to a lifeboat constructed of wooden planks capacity equal to the product of the length, the breadth and the depth multiplied by 0.6 if it is evident that this formula does not give a greater capacity than that obtained by the above method. The dimensions shall then be measured in the following manner:
- Length - From the intersection of the outside of the planking with the stem to the corresponding point at the stern post or, in the case of a square-sterned boat, to the after side of the transom.
 - Breadth - From the outside of the planking at the point where the breadth of the boat is greatest.
 - Depth - Amidships inside the planking from the keel to the level of the gunwale, but the depth used in calculating the cubic capacity may not in any case exceed 45 per cent of the breadth.
- In all cases the shipowner has the right to require that the cubic capacity of the lifeboat shall be determined by exact measurement.
- (h) The cubic capacity of a motor lifeboat or a lifeboat fitted with other propelling gear shall be obtained from the gross capacity by deducting a volume equal to that occupied by the motor and its accessories or the gearbox of the other propelling gear, and, when carried, the radiotelegraph installation and searchlight with their accessories.

Regulation 7
Carrying Capacity of Lifeboats

The number of persons which a lifeboat shall be permitted to accommodate shall be equal to the greatest whole number obtained by dividing the capacity in cubic metres by:

- In the case of a lifeboat of 7.3 metres (24 feet) in length or over, 0.283 (or where the capacity is measured in cubic feet 10),
- In the case of lifeboats of 4.9 metres (16 feet) in length, 0.396 (or where the capacity is measured in cubic feet 14); and
- In the case of lifeboats of 4.9 metres (16 feet) in length or over but under 7.3 metres (24 feet), a number between 0.396 and 0.283 (or where the capacity is measured in cubic feet between 14 and 10) to be obtained by interpolation provided that the number shall in no case exceed the number of adult persons wearing life-jackets which can be seated without in any way interfering with the use of oars or the operation of other propulsion equipment.

Regulation 8

Number of Motor Lifeboats to Be Carried

- (a) In every passenger ship there shall be carried on each side of the ship at least one motor lifeboat complying with the requirements of Regulation 9 of this Chapter. Provided that in passenger ships in which the total number of persons which the ship is certified to carry, together with the crew, does not exceed 30, only one such motor lifeboat shall be required.
- (b) In every cargo ship of 1,600 tons gross tonnage and upwards, except tankers, ships employed as whale factory ships, ships employed as fish processing or canning factory ships, and ships engaged in the carriage of persons in the whaling, fish processing or canning industries, there shall be carried at least one motor lifeboat complying with the requirements of Regulation 9 of this Chapter.
- (c) In every tanker of 1,600 tons gross tonnage and upwards, in every ship employed as a whale factory ship, in every ship employed as a fish processing or canning factory ship and in every ship engaged in the carriage of persons employed in the whaling, fish processing or canning industries, there shall be carried on each side at least one motor lifeboat complying with the requirements of Regulation 9 of this Chapter.

Regulation 9

Specification of Motor Lifeboats

- (a) A motor lifeboat shall comply with the following conditions:
 - (i) It shall be fitted with a compression ignition engine and kept so as to be at all times ready for use; it shall be capable of being readily started in all conditions; sufficient fuel for 24 hours continuous operation at the speed specified in sub-paragraph (iii) of this paragraph shall be provided.

- (ii) The engine and its accessories shall be suitably enclosed to ensure operation under adverse weather conditions, and the engine casing shall be fire-resisting. Provision shall be made for going astern.

- (iii) The speed ahead in smooth water when loaded with its full complement of persons and equipment shall be:
 - (1) In the case of motor lifeboats required by Regulation 8 of this Chapter to be carried in passenger ships, tankers, ships employed as whale factory ships, ships employed as fish processing or canning factory ships and ships engaged in the carriage of persons employed in the whaling, fish processing or canning industries, at least six knots.

 - (2) In the case of any other motor lifeboat, at least four knots.

- (b) The volume of the internal buoyancy appliances of a motor lifeboat shall be increased above that required by Regulation 5 of this Chapter by the amount, if any, by which the volume of the internal buoyancy appliances required to support the engine and its accessories, and, if fitted, the searchlight and radiotelegraph installation and their accessories, exceeds the volume of the internal buoyancy appliances required, at the rate of 0.0283 cubic metres (one cubic foot) per person, to support the additional persons which the lifeboat could accommodate if the motor and its accessories, and, if fitted, the searchlight and radiotelegraph installation and their accessories, were removed.

Regulation 10

Specification of Mechanically Propelled Lifeboats Other Than Motor Lifeboats

A mechanically propelled lifeboat, other than a motor lifeboat, shall comply with the following conditions:

- (a) The propelling gear shall be of an approved type and shall have sufficient power to enable the lifeboat to be readily cleared from the ship's side when launched and be able to hold course under adverse weather conditions. If the gear is manually operated it shall be capable of being worked by persons untrained in its use and shall be capable of being operated when the lifeboat is flooded.

- (b) A device shall be fitted by means of which the helmsman can cause the lifeboat to go astern at any time when the propelling gear is in operation.

- (c) The volume of the internal buoyancy of a mechanically propelled lifeboat, other than a motor lifeboat, shall be increased to compensate for the weight of the propelling gear.

Regulation 11
Equipment of Lifeboats

- (a) The normal equipment of every lifeboat shall consist of:
- (i) a single banked complement of buoyant oars, two spare buoyant oars, and a buoyant steering oar; one set and a half of thole pins or crutches, attached to the lifeboat by lanyard or chain; a boat hook;
 - (ii) two plus for each plug hole (plugs are not required when proper automatic valves are fitted) attached to the lifeboat by lanyards or chains; a baler, and two buckets of approved material;
 - (iii) a rudder attached to the lifeboat and a tiller;
 - (iv) two hatchets, one at each end of the lifeboat;
 - (v) a lamp, with oil sufficient for 12 hours; two boxes of suitable matches in a watertight container;
 - (vi) a mast or masts, with galvanized wire stays together with sails (coloured orange);
 - (vii) an efficient compass in binnacle, to be luminised or fitted with suitable means of illumination;
 - (viii) a lifeline becketed around the outside of the lifeboat;
 - (ix) a sea-anchor of approved size;
 - (x) two painters of sufficient length. One shall be secured to the forward end of the lifeboat with strop and toggle so that it can be released, and the other shall be firmly secured to the stem of the lifeboat and be ready for use;
 - (xi) a vessel containing 4½ litres (1 gallon) of vegetable, fish or animal oil. The vessel shall be so constructed that the oil can be easily distributed on the water, and so arranged that it can be attached to the sea-anchor;
 - (xii) a food ration, determined by the Administration, for each person the lifeboat is certified to carry. These rations shall be kept in airtight receptacles which are to be stowed in a watertight container;
 - (xiii) watertight receptacles containing 3 litres (6 pints) of fresh water for each person the lifeboat is certified to carry, or watertight receptacles containing 2 litres (4 pints) of fresh water for each person together with an approved de-salting apparatus capable of providing 1 litre (2 pints) of drinking water per person; a rustproof dipper with lanyard; a rustproof graduated drinking vessel;
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International Convention for the Safety of Life at Sea

- (xiv) four parachute signals of approved type capable of giving a bright red light at a high altitude; six hand flares of an approved type giving a bright red light;
 - (xv) two buoyant smoke signals of an approved type (for day-time use) capable of giving off a volume of orange-coloured smoke;
 - (xvi) approved means to enable persons to cling to the boat should it be upturned, in the form of bilge keels or keel rails, together with grab lines secured from gunwale to gunwale under the keel, or other approved arrangements;
 - (xvii) an approved first-aid outfit in a watertight case;
 - (xviii) a waterproof electric torch suitable for signalling in the Morse Code together with one spare set of batteries and one spare bulb in a waterproof container;
 - (xix) a daylight-signalling mirror of an approved type;
 - (xx) a jack-knife fitted with a tin-opener to be kept attached to the boat with a lanyard;
 - (xxi) two light buoyant heaving lines;
 - (xxii) a manual pump of an approved type;
 - (xxiii) a suitable locker for stowage of small items of equipment;
 - (xxiv) one whistle or equivalent sound signal;
 - (xxv) one set of fishing tackle;
 - (xxvi) one approved cover of a highly visible colour capable of protecting the occupants against injury by exposure; and
 - (xxvii) one copy of the illustrated table of life-saving signals referred to in Regulation 16 of Chapter V.
- (b) In the case of ships engaged on voyages of such duration that in the opinion of the Administration the items specified in sub-paragraphs (vi), (xii), (xix), (xx) and (xxv) of paragraph (a) of this Regulation are unnecessary, the Administration may allow them to be dispensed with.
- (c) Notwithstanding the provisions of paragraph (a) of this Regulation, motor lifeboats or other approved mechanically propelled lifeboats need not carry a mast or sails or more than half the complement of oars, but they shall carry two boat hooks.
- (d) All lifeboats shall be fitted with suitable means to enable persons in the water to climb into the lifeboat.
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- (e) Every motor lifeboat shall carry portable fire-extinguishing equipment of an approved type capable of discharging froth or other suitable substance for extinguishing oil fires.

Regulation 12
Security of Lifeboat Equipment

All items of lifeboat equipment, with the exception of the boat hook which shall be kept free for fending off purposes, shall be suitably secured within the lifeboat. The lashing shall be carried out in such a manner as to ensure the security of the equipment and so as not to interfere with the lifting hooks or to prevent ready embarkation. All items of lifeboat equipment shall be as small and light in weight as possible and shall be packed in suitable and compact form.

Regulation 13
Portable Radio Apparatus for Survival Craft

- (a) An approved portable radio apparatus for survival craft complying with the requirements set out in Regulation 14 of Chapter IV shall be carried in all ships except those on which there is carried on each side of the ship a motor lifeboat fitted with a radiotelegraph installation complying with the provisions of Regulation 14 of this Chapter and of Regulation 13 of Chapter IV. All this equipment shall be kept together in the chartroom or other suitable place ready to be moved to one or other of the lifeboats in the event of an emergency. However, in tankers of 3,000 tons gross tonnage and upwards in which lifeboats are fitted amidships and aft this equipment shall be kept in a suitable place in the vicinity of those lifeboats which are furthest away from the ship's main transmitter.
- (b) In the case of ships engaged on voyages of such duration that in the opinion of the Administration portable radio apparatus for survival craft is unnecessary, the Administration may allow such equipment to be dispensed with.

Regulation 14
Radio Apparatus and Searchlights in Motor Lifeboats

- (a)
- (i) Where the total number of persons on board a passenger ship engaged on international voyages which are not short international voyages, a ship employed as a whale factory ship, a ship employed as a fish processing or canning factory ship or a ship engaged in the carriage of persons employed in the whaling, fish processing or canning industries, is more than 199 but less than 1,500, a radiotelegraph apparatus complying with the requirements set out in this Regulation and in Regulation 13 of Chapter IV shall be fitted in at least one of the motor lifeboats required under Regulation 8 of this Chapter to be carried in that ship.

- (ii) Where the total number of persons on board such a ship is 1,500 or more, such a radiotelegraph apparatus shall be fitted in every motor lifeboat required under Regulation 8 of this Chapter to be carried in that ship.
- (b) The radio apparatus shall be installed in a cabin large enough to accommodate both the equipment and the person using it.
- (c) The arrangements shall be such that the efficient operation of the transmitter and receiver shall not be interfered with by the engine while it is running, whether a battery is on charge or not.
- (d) The radio battery shall not be used to supply power to any engine starting motor or ignition system.
- (e) The motor lifeboat engine shall be fitted with a dynamo for recharging the radio battery, and for other services.
- (f) A searchlight shall be fitted in each motor lifeboat required to be carried under paragraph (a) of Regulation 8 of this Chapter in passenger ships and under paragraph (c) of that Regulation in ships employed as whale factory ships, fish processing or canning factory ships and ships engaged in the carriage of persons employed in the whaling, fish processing or canning industries.
- (g) The searchlight shall include a lamp of at least 80 watts, an efficient reflector and a source of power which will give effective illumination of a light-coloured object having a width of about 18 metres (60 feet) at a distance of 180 metres (200 yards) for a total period of six hours and shall be capable of working for at least three hours continuously.

Regulation 15
Requirements for Inflatable Liferafts

- (a) Every inflatable liferaft shall be so constructed that, when fully inflated and floating with the cover uppermost, it shall be stable in a seaway.
- (b) The liferaft shall be so constructed that if it is dropped into the water from a height of 18 metres (60 feet) neither the liferaft nor its equipment will be damaged. If the raft is to be stowed on the ship at a height above the water more than 18 metres (60 feet), it shall be of a type which has been satisfactorily drop-tested from a height at least equal to the height at which it is to be stowed.
- (c) The construction of the liferaft shall include a cover which shall automatically be set in place when the liferaft is inflated. This cover shall be capable of protecting the occupants against injury from exposure, and means shall be provided for collecting rain. The top of the cover shall be fitted with a lamp which derives its luminosity from a sea-activated cell

and a similar lamp shall also be fitted inside the liferaft. The cover of the liferaft shall be of a highly visible colour.

- (d) The liferaft shall be fitted with a painter and shall have a line securely becketed round the outside. A lifeline shall also be fitted around the inside of the liferaft.
 - (e) The liferaft shall be capable of being readily righted by one person if it inflates in an inverted position.
 - (f) The liferaft shall be fitted at each opening with efficient means to enable persons in the water to climb on board.
 - (g) The liferaft shall be contained in a valise or other container so constructed as to be capable of withstanding hard wear under conditions met with at sea. The liferaft in its valise or other container shall be inherently buoyant.
 - (h) The buoyancy of the liferaft shall be so arranged as to ensure by a division into an even number of separate compartments, half of which shall be capable of supporting out of the water the number of persons which the liferaft is permitted to accommodate, or by some other equally efficient means, that there is a reasonable margin of buoyancy if the raft is damaged or partially fails to inflate.
 - (i) The total weight of the liferaft, its valise or other container and its equipment shall not exceed 180 kilogrammes (400 lbs.).
 - (j) The number of persons which an inflatable liferaft shall be permitted to accommodate shall be equal to:
 - (i) the greatest whole number obtained by dividing by 96 the volume, measured in cubic decimetres (or by 3.4 the volume, measured in cubic feet) of the main buoyancy tubes (which for this purpose shall include neither the arches nor the thwart or thwarts if fitted) when inflated; or
 - (ii) the greatest whole number obtained by dividing by 3,720 the area measured in square centimetres (or by 4 the area, measured in square feet) of the floor (which for this purpose may include the thwart or thwarts if fitted) of the liferaft when inflated whichever number shall be the less.
 - (k) The floor of the liferaft shall be waterproof and shall be capable of being sufficiently insulated against cold.
 - (l) The liferaft shall be inflated by a gas which is not injurious to the occupants and the inflation shall take place automatically either on the pulling of a line or by some other equally simple and efficient method. Means shall be provided whereby the topping-up pump or bellows required by Regulation 17 of this Chapter may be used to maintain pressure.
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- (m) The liferaft shall be of approved material and construction, and shall be so constructed as to be capable of withstanding exposure for 30 days afloat in all sea conditions.
- (n) No liferaft shall be approved which has a carrying capacity calculated in accordance with paragraph (j) of this Regulation of less than six persons. The maximum number of persons calculated in accordance with that paragraph for which an inflatable liferaft may be approved shall at the discretion of the Administration, but shall in no case exceed 25.
- (o) The liferaft shall be capable of operating throughout a temperature range of 66deg.C to minus 30deg.C (150deg.F to minus 22deg.F).
- (p)
 - (i) The liferaft shall be so stowed as to be readily available in case of emergency. It shall be stowed in such a manner as to permit it to float free from its stowage, inflate and break free from the vessel in the event of sinking.
 - (ii) If used, lashing shall be fitted with an automatic release system of a hydrostatic or equivalent nature approved by the Administration.
 - (iii) The liferaft required by paragraph (c) of Regulation 35 of this Chapter may be securely fastened.
- (q) The liferaft shall be fitted with arrangements enabling it to be readily towed.

Regulation 16
Requirements for Rigid Liferafts

- (a) Every rigid liferaft shall be so constructed that if it is dropped into the water from its stowed position neither the liferaft nor its equipment will be damaged.
- (b) The deck area of the liferaft shall be situated within that part of the liferaft which affords protection to its occupants. The area of that deck shall be at least 0.3720 square metres (4 square feet) for every person the liferaft is permitted to carry. The nature of the deck shall be such as to prevent so far as practicable the ingress of water and it shall effectively support the occupants out of the water.
- (c) The liferaft shall be fitted with a cover or equivalent arrangement of a highly visible colour, which shall be capable of protecting the occupants against injury from exposure whichever way up the liferaft is floating.
- (d) The equipment of the liferaft shall be so stowed as to be readily available whichever way up the liferaft is floating.
- (e) The total weight of a liferaft and its equipment carried in passenger ships shall not exceed 180 kilogrammes (400 lbs.). Liferafts carried in cargo ships may exceed 180 kilogrammes

(400 lbs.) in weight if they are capable of being launched from both sides of the ship or if there are provided means for putting them into the water mechanically.

- (f) The liferaft must at all times be effective and stable when floating either way up.
- (g) The liferaft shall have at least 96 cubic decimetres (3.4 cubic feet) of air cases or equivalent buoyancy for each person it is permitted to carry which must be placed as near as possible to the side of the raft.
- (h) The liferaft shall have a painter attached and a lifeline securely becketed round the outside. A lifeline shall also be fitted around the inside of the raft.
- (i) The liferaft shall be fitted at each opening with efficient means to enable persons in the water to climb on board.
- (j) The liferaft shall be so constructed as not to be affected by oil or oil products.
- (k) A buoyant light of the electric battery type shall be attached to the liferaft by a lanyard.
- (l) The liferaft shall be fitted with arrangements enabling it to be readily towed.
- (m) Liferafts shall be so stowed as to float free in the event of the ship sinking.

Regulation 17
Equipment of Inflatable and Rigid Liferafts

- (a) The normal equipment of every liferaft shall consist of:
 - (i) One buoyant rescue quoit, attached to at least 30 metres (100 feet) of buoyant line.
 - (ii) For liferafts which are permitted to accommodate not more than 12 persons: one knife and one baler; for liferafts which are permitted to accommodate 13 persons or more: two knives and two balers.
 - (iii) Two sponges.
 - (iv) Two sea-anchors, one permanently attached to the liferaft and one spare.
 - (v) Two paddles.
 - (vi) One repair outfit capable of repairing punctures in buoyancy compartments.
 - (vii) One topping-up pump or bellows, unless the liferaft complies with Regulation 16 of this Chapter.
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- (viii) Three tin-openers.
 - (ix) One approved first-aid outfit in a waterproof case.
 - (x) One rustproof graduated drinking vessel.
 - (xi) One waterproof electric torch suitable for signalling in the Morse Code, together with one spare set of batteries and one spare bulb in a waterproof container.
 - (xii) One daylight-signalling mirror and one signalling whistle.
 - (xiii) Two parachute distress signals of an approved type, capable of giving a bright red light at a high altitude.
 - (xiv) Six hand flares of an approved type, capable of giving a bright red light.
 - (xv) One set of fishing tackle.
 - (xvi) A food ration, determined by the Administration, for each person the liferaft is permitted to accommodate.
 - (xvii) Watertight receptacles containing 1 1/2 litres (3 pints) of fresh water for each person the liferaft is permitted to accommodate, of which 1/2 litre (1 pint) per person may be replaced by a suitable de-salting apparatus capable of producing an equal amount of fresh water.
 - (xviii) Six anti-seasickness tablets for each person the liferaft is deemed fit to accommodate.
 - (xix) Instructions on how to survive in the liferaft; and
 - (xx) one copy of the illustrated table of life-saving signals referred to in Regulation 16 of Chapter V.
- (b) In the case of passenger ships engaged on short international voyages of such duration that in the opinion of the Administration all the items specified in paragraph (a) of this Regulation are unnecessary, the Administration may allow one or more liferafts, not being less than one-sixth of the number of liferafts carried in any such ship, to be provided with the equipment specified in sub-paragraphs (i) to (vii) inclusive, (xi) and (xix) of paragraph (a) of this Regulation, and with one-half of the equipment specified in sub-paragraphs (xiii) and (xiv) of that paragraph and the remainder of the liferafts carried to be provided with the equipment specified in sub-paragraphs (i) to (vii) inclusive and (xix) of that paragraph.
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Regulation 18
Training in the Use of Liferafts

The Administration shall so far as is practicable and reasonable take steps with a view to ensuring that crews of ships in which liferafts are carried are trained in their launching and use.

Regulation 19
Embarkation into Lifeboats and Liferafts

- (a) Suitable arrangements shall be made for embarkation into the lifeboats, which shall include:
- (i) a ladder at each set of davits to afford access to the lifeboats when waterborne, except that in passenger ships, ships employed as whale factory ships, ships employed as fish processing or canning factory ships and ships engaged in the carriage of persons employed in the whaling, fish processing or canning industries, the Administration may permit such ladders to be replaced by approved devices provided that there shall not be less than one ladder on each side of the ship;
 - (ii) means for illuminating the lifeboats and their launching gear during preparation for and the process of launching, and also for illuminating the water into which the lifeboats are launched until the process of launching is completed;
 - (iii) arrangements for warning the passengers and crew that the ship is about to be abandoned; and
 - (iv) means for preventing any discharge of water into the lifeboats.
- (b) Suitable arrangements shall also be made for embarkation into the liferafts, which shall include:
- (i) sufficient ladders to facilitate embarkation into the liferafts when waterborne except that in passenger ships, ships employed as whale factory ships, ships employed as fish processing or canning factory ships, and ships engaged in the carriage of persons employed in the whaling, fish processing or fish canning industries, the Administration may permit the replacement of some or all of such ladders by approved devices;
 - (ii) where there are carried liferafts for which approved launching devices are provided, means for illuminating those liferafts and launching devices during the preparation for and the process of launching, and also for illuminating the water into which those liferafts are launched until the process of launching is completed;

- (iii) means for illuminating the stowage position of liferafts for which approved launching devices are not provided;
- (iv) arrangements for warning the passengers and crew that the ship is about to be abandoned; and
- (v) means for preventing any discharge of water into the liferafts at fixed launching positions, including those under approved launching devices.

Regulation 20

Marking of Lifeboats, Liferafts and Buoyant Apparatus

- (a) The dimensions of a lifeboat and the number of persons which it is permitted to carry shall be marked on it in clear permanent characters. The name and port of registry of the ship to which the lifeboat belongs shall be painted on each side of the bow.
- (b) Buoyant apparatus shall be marked with the number of persons in the same manner.
- (c) The number of persons shall be marked in the same manner on inflatable liferafts and also on the valise or container in which the inflatable liferaft is contained. Every inflatable liferaft shall also bear a serial number and the manufacturer's name so that the owner of the liferaft can be ascertained.
- (d) Every rigid liferaft shall be marked with the name and port of registry of the ship in which it is carried, and with the number of persons it is permitted to carry.
- (e) No lifeboat, liferaft or buoyant apparatus shall be marked for a greater number of persons than that obtained in the manner specified in this Chapter.

Regulation 21

Specification of a Lifebuoy

- (a) A lifebuoy shall satisfy the following requirements;
 - (i) it shall be of solid cork or any other equivalent material;
 - (ii) it shall be capable of supporting in fresh water for 24 hours at least 14.5 kilogrammes (32 lbs.) of iron;
 - (iii) it shall not be adversely affected by oil or oil products;
 - (iv) it shall be of a highly visible colour;
 - (v) it shall be marked in block letters with the name and port of registry of the ship in which it is carried.
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- (b) Lifebuoys filled with rushes, cork shavings or granulated cork, or any other loose granulated material, or whose buoyancy depends upon air compartments which require to be inflated, are prohibited.
- (c) Lifebuoys made of plastic or other synthetic compounds shall be capable of retaining their buoyant properties and durability in contact with sea water or oil products, or under variations of temperature or climatic changes prevailing in open sea voyages.
- (d) Lifebuoys shall be fitted with beackets securely seized. At least one lifebuoy on each side of the ship shall be fitted with a buoyant lifeline of at least 27.5 metres (15 fathoms) in length.
- (e) In passenger ships not less than one-half of the total number of lifebuoys, and in no case less than six, and in cargo ships at least one-half of the total number of lifebuoys, shall be provided with efficient self-igniting lights.
- (f) The self-igniting lights required by paragraph (e) of this Regulation shall be such that they cannot be extinguished by water. They shall be capable of burning for not less than 45 minutes and shall have a luminous intensity of not less than 2 candelas in all directions of the upper hemisphere. The lights shall be kept near the lifebuoys to which they belong, with the necessary means of attachment. Self-igniting lights used in tankers shall be of an approved electric battery type.
- (g) All lifebuoys shall be so placed as to be readily accessible to the persons on board, and at least two of the lifebuoys provided with self-igniting lights in accordance with paragraph (e) of this Regulation shall also be provided with an efficient self-activating smoke signal capable of producing smoke of a highly visible colour for at least 15 minutes, and shall be capable of quick release from the navigating bridge.
- (h) Lifebuoys shall always be capable of being rapidly cast loose and shall not be permanently secured in any way.

Regulation 22
Life-Jackets

- (a) Ships shall carry for every person on board a life-jacket of an approved type and, in addition, unless these life-jackets can be adapted for use by children, a sufficient number of life-jackets suitable for children. Each life-jacket shall be suitably marked showing that it has been approved by the Administration.
 - (b) In addition to the life-jackets required by paragraph (a) of this Regulation there shall be carried on passenger ships life-jackets for 5 per cent of the total number of persons on board. These life-jackets shall be stowed in a conspicuous place on deck.
 - (c) An approved life-jacket shall comply with the following requirements:
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- (i) it shall be constructed with proper workmanship and materials;
 - (ii) it shall be so constructed as to eliminate so far as possible all risk of its being put on incorrectly, except that it shall be capable of being worn inside out;
 - (iii) it shall be capable of lifting the face of an exhausted or unconscious person out of the water and holding it above the water with the body inclined backwards from its vertical position;
 - (iv) it shall be capable of turning the body in the water from any position to a safe floating position with the body inclined backwards from its vertical position;
 - (v) it shall not be adversely affected by oil or oil products;
 - (vi) it shall be of a highly visible colour;
 - (vii) it shall be fitted with an approved whistle, firmly secured by a cord;
 - (viii) the buoyancy of the life-jacket required to provide the foregoing performance shall not be reduced by more than 5 per cent after 24 hours' submergence in fresh water.
- (d) A life-jacket, the buoyancy of which depends on inflation, may be permitted for use by the crews of all ships except passenger ships and tankers provided that:
- (i) it has two separate inflatable compartments;
 - (ii) it is capable of being inflated both mechanically and by mouth; and
 - (iii) it complies with the requirements of paragraph (c) of this Regulation with either compartment inflated separately.
- (e) Life-jackets shall be so placed as to be readily accessible and their position shall be plainly indicated.

Regulation 23
Line-Throwing Appliances

- (a) Ships shall carry a line-throwing appliance of an approved type.
- (b) The appliance shall be capable of carrying a line not less than 230 metres (250 yards) with reasonable accuracy, and shall include not less than four projectiles and four lines.

Regulation 24
Ships' Distress Signals

Ships shall be provided, to the satisfaction of the Administration, with means of making effective distress signals by day and by night, including at least twelve parachute signals capable of giving a bright red light at a high altitude.

Regulation 25
Muster List and Emergency Procedure

- (a) Special duties to be undertaken in the event of an emergency shall be allotted to each member of the crew.
- (b) The muster list shall show all the special duties and shall indicate, in particular, the station to which each member must go, and the duties that he has to perform.
- (c) The muster list for each passenger ship shall be in a form approved by the Administration.
- (d) Before the vessel sails, the muster list shall be completed. Copies shall be posted in several parts of the ship, and in particular in the crew's quarters.
- (e) The muster list shall show the duties assigned to the different members of the crew in connexion with:
 - (i) the closing of the watertight doors, valves and closing mechanisms of scuppers, ash-shoots and fire doors;
 - (ii) the equipping of the lifeboats (including the portable radio apparatus for survival craft) and the other life-saving appliances;
 - (iii) the launching of the lifeboat;
 - (iv) the general preparation of the other life-saving appliances;
 - (v) the muster of the passengers; and
 - (vi) the extinction of fire, having regard to the ship's fire control plans.
- (f) The muster list shall show the several duties assigned to the members of the stewards' department in relation to the passengers in case of emergency. These duties shall include:
 - (i) warning the passengers;
 - (ii) seeing that they are suitably clad and have put on their life-jackets in a proper manner;

- (iii) assembling the passengers at muster stations;
- (iv) keeping order in the passages and on the stairways, and, generally, controlling the movements of the passengers; and
- (v) ensuring that a supply of blankets is taken to the lifeboats.
- (g) The duties shown by the muster list in relation to the extinction of fire pursuant to subparagraph (e)(vi) of this Regulation shall include particulars of:
 - (i) the manning of the fire parties assigned to deal with fires;
 - (ii) the special duties assigned in respect of the operation of fire-fighting equipment and installations.
- (h) The muster list shall specify definite signals for calling all the crew to their boat, liferaft and fire stations, and shall give full particulars of these signals. These signals shall be made on the whistle or siren and, except on passenger ships on short international voyages and on cargo ships of less than 45.7 metres (150 feet) in length, they shall be supplemented by other signals which shall be electrically operated. All these signals shall be operable from the bridge.

Regulation 26
Practice Musters and Drills

- (a)
 - (i) In passenger ships, musters of the crew for boat drill and fire drill shall take place weekly when practicable and there shall be such a muster when a passenger ship leaves the final port of departure on an international voyage which is not a short international voyage.
 - (ii) In cargo ships, a muster of the crew for boat drill and fire drill shall take place at intervals of not more than one month, provided that a muster of the crew for boat drill and fire drill shall take place within 24 hours of leaving a port if more than 25 per cent of the crew have been replaced at that port.
 - (iii) On the occasion of the monthly muster in cargo ships the boat's equipment shall be examined to ensure that it is complete.
 - (iv) The date upon which musters are held, and details of any training and drills in fire fighting which are carried out on board shall be recorded in such log book as may be prescribed by the Administration. If in any week (for passenger ships) or month (for cargo ships) no muster or a part muster only is held, an entry shall be made stating the circumstances and extent of the muster held. A report of the examination of the boat's equipment on cargo ships shall be entered in the log book, which shall also record the
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occasions on which the lifeboats are swung out and lowered in compliance with paragraph (c) of this Regulation.

- (b) In passenger ships, except those engaged on short international voyages, a muster of the passengers shall be held within 24 hours after leaving port.
- (c) Different groups of lifeboats shall be used in turn at successive boat drills and every lifeboat shall be swung out and, if practicable and reasonable, lowered at least once every four months. The musters and inspections shall be so arranged that the crew thoroughly understand and are practised in the duties they have to perform, including instructions in the handling and operation of liferafts where these are carried.
- (d) The emergency signal for summoning passengers to muster stations shall be a succession of seven or more short blasts followed by one long blast on the whistle or siren. This shall be supplemented in passenger ships, except those engaged on short international voyages, by other signals, which shall be electrically operated, throughout the ship operable from the bridge. The meaning of all signals affecting passengers, with precise instructions on what they are to do in an emergency, shall be clearly stated in appropriate languages on cards posted in their cabins and in conspicuous places in other passenger quarters.

PART B
PASSENGER SHIPS ONLY

Regulation 27
Lifeboats, Liferafts and Buoyant Apparatus

- (a) Passenger ships shall carry two boats attached to davits - one on each side of the ship - for use in an emergency. These boats shall be of an approved type and shall be not more than 8.5 metres (28 feet) in length. They may be counted for the purposes of paragraphs (b) and (c) of this Regulation, provided that they comply fully with the requirements for lifeboats of this Chapter, and for the purposes of Regulation 8 provided that in addition they comply fully with the requirements of Regulation 9 and where appropriate Regulation 14 of this Chapter. They shall be kept ready for immediate use while the ship is at sea. In ships in which the requirements of paragraph (h) of Regulation 29 are met by means of appliances fitted to the sides of the lifeboats, such appliances shall not be required to be fitted to the two boats provided to meet the requirements of this Regulation.
- (b) Passenger ships engaged on international voyages which are not short international voyages shall carry:
 - (i) Lifeboats on each side of such aggregate capacity as will accommodate half the total number of persons on board; provided that the Administration may permit the substitution of lifeboats by liferafts of the same total capacity so however that there

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

shall never be less than sufficient lifeboats on each side of the ship to accommodate 371/2 per cent of all on board.

- (ii) Liferrafts of sufficient aggregate capacity to accommodate 25 per cent of the total number of persons on board, together with buoyant apparatus for 3 per cent of that number. Provided that ships which have a factor of subdivision of 0.33 or less shall be permitted to carry, in lieu of liferafts for 25 per cent of all on board and buoyant apparatus for 3 per cent of all on board, buoyant apparatus for 25 per cent of that number.

(c)

- (i) A passenger ship engaged on short international voyages shall be provided with sets of davits in accordance with its length as specified in Column A of the Table in Regulation 28 of this Chapter. Each set of davits shall have a lifeboat attached to it and these lifeboats shall provide at least the minimum capacity required by Column C of the Table or the capacity required to provide accommodation for all on board if this is less.

Provided that when in the opinion of the Administration it is impracticable or unreasonable to place on a ship engaged on short international voyages the number of sets of davits required by Column A of the Table in Regulation 28, the Administration may authorize, under exceptional conditions, a smaller number of davits, except that this number shall never be less than the minimum number fixed by Column B of the Table, and that the total capacity of the lifeboats on the ship will be at least equal to the minimum capacity required by Column C or the capacity required to provide for all persons on board if this is less.

- (ii) If the lifeboats so provided are not sufficient to accommodate all on board, additional lifeboats under davits or liferafts shall be provided so that the accommodation provided in the lifeboats and the liferafts in the ship shall be sufficient for all on board.
- (iii) Notwithstanding the provisions of sub-paragraph (ii) of this paragraph in any ship engaged on short international voyages the number of persons carried shall not exceed the total capacity of the lifeboats provided in accordance with sub-paragraphs (i) and (ii) of this paragraph unless the Administration considers that this is necessitated by the volume of traffic and then only if the ship complies with the provisions of paragraph (d) of Regulation I of Chapter II-1.
- (iv) Where under the provisions of sub-paragraph (ii) of this paragraph the Administration has permitted the carriage of persons in excess of the lifeboat capacity and is satisfied that it is impracticable in that ship to stow the liferafts carried in accordance with sub-paragraph (ii) of this paragraph it may permit a reduction in the number of lifeboats.

Provided that:

- (1) the number of lifeboats shall, in the case of ships of 58 metres (190 feet) in length and over, never be less than four, two of which shall be carried on each side of the ship, and in the case of ships of less than 58 metres (190 feet) in length, shall never be less than two, one of which shall be carried on each side of the ship; and
- (2) the number of lifeboats and liferafts shall always be sufficient to accommodate the total number of persons on board.
- (v) Every passenger ship engaged on short international voyages shall carry in addition to the lifeboats and liferafts required by the provisions of this paragraph, liferafts sufficient to accommodate 10 per cent of the total number of persons for whom there is accommodation in the lifeboats carried in that ship.
- (vi) Every passenger ship engaged on short international voyages shall also carry buoyant apparatus for at least 5 per cent of the total number of persons on board.
- (vii) The Administration may permit individual ships or classes of ships with short international voyage certificates to proceed on voyages in excess of 600 miles but not exceeding 1,200 miles if such ships comply with the provisions of paragraph (d) of Regulation 1 of Chapter II-1, if they carry lifeboats which provide for 75 per cent of the persons on board and otherwise comply with the provisions of this paragraph.

Regulation 28**Table Relating to Davits and Lifeboat Capacity for Ships on Short International Voyages**

The following table fixes according to the length of the ship:

- (A) the minimum number of sets of davits to be provided on a ship engaged on short international voyages to each of which must be attached a lifeboat in accordance with Regulation 27 of this Chapter;
- (B) the smaller number of sets of davits which may be authorized exceptionally on a ship engaged on short international voyages under Regulation 27 of this Chapter; and
- (C) the minimum lifeboat capacity required for a ship engaged on short international voyages.

<i>Registered length of ship</i>		<i>(A) Minimum number of sets of davits</i>	<i>(B) Smaller number of sets of davits authorized exceptionally</i>	<i>(C) Minimum capacity of lifeboats</i>	
<i>Metres</i>	<i>Feet</i>			<i>Cubic metres</i>	<i>Cubic feet</i>
31 and under 37	100 and under 120	2	2	11	400

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

37 and under 43	120 and under 140	2	2	18	650
43 and under 49	140 and under 160	2	2	26	900
49 and under 53	160 and under 175	3	3	33	1,150
53 and under 58	175 and under 190	3	3	38	1,350
58 and under 63	190 and under 205	4	4	44	1,550
63 and under 67	205 and under 220	4	4	50	1,750
67 and under 70	220 and under 230	5	4	52	1,850
70 and under 75	230 and under 245	5	4	61	2,150
75 and under 78	245 and under 255	6	5	68	2,400
78 and under 82	255 and under 270	6	5	76	2,700
82 and under 87	270 and under 285	7	5	85	3,000
87 and under 91	285 and under 300	7	5	94	3,300
91 and under 96	300 and under 300	8	6	102	3,600
96 and under 101	315 and under 335	8	6	110	3,900
101 and under 107	330 and under 350	9	7	122	4,300
107 and under 113	350 and under 370	9	7	135	4,750
113 and under 119	370 and under 390	10	7	146	5,150
119 and under 125	390 and under 410	10	7	157	5,550
125 and under 133	410 and under 435	12	9	171	6,050
133 and under 140	435 and under 460	12	9	185	6,550
140 and under 149	460 and under 490	14	10	202	7,150
149 and under 159	490 and under 520	14	10	221	7,800
159 and under 168	520 and under 550	16	12	238	8,400

Note on (C): Where the length of the ship is under 31 metres (100 feet) or over 168 metres (550 feet) the minimum number of sets of davits and the cubic capacity of the lifeboats shall be prescribed by the Administration.

Regulation 29

Stowage and Handling of Lifeboats, Liferrafts and Buoyant Apparatus

- (a) Lifeboats and liferafts shall be stowed to the satisfaction of the Administration in such a way that:
- (i) they can all be launched in the shortest possible time and in not more than 30 minutes;
 - (ii) they will not impede in any way the prompt handling of any of the other lifeboats, liferafts or buoyant apparatus or the marshalling of the persons on board at the launching stations, or their embarkation;
 - (iii) the lifeboats, and the liferafts for which approved launching devices are required to be carried, shall be capable of being put into the water loaded with their full complement of persons and equipment even in unfavourable conditions of trim and of 15 degrees of list either way; and
 - (iv) the liferafts for which approved launching devices are not required to be carried, and the buoyant apparatus, shall be capable of being put into the water even in unfavourable conditions of trim and of 15 degrees of list either way.
- (b) Every lifeboat shall be attached to a separate set of davits.
- (c) Lifeboats may only be stowed on more than one deck if proper measures are taken to prevent lifeboats on a lower deck being fouled by those stowed on a deck above.
- (d) Lifeboats, and liferafts for which approved launching devices are required to be carried, shall not be placed in the bow of the ship. They shall be stowed in such positions as to ensure safe launching having particular regard to clearance from the propeller and steeply overhanging portions of the hull aft.
- (e) Davits shall be of approved design and shall be suitably placed to the satisfaction of the Administration. They shall be so disposed on one or more decks that the lifeboats placed under them can be safely lowered without interference from the operation of any other davits.
- (f) Davits shall be as follows:
- (i) luffing or gravity type for operating lifeboats weighing not more than 2,300 kilogrammes (21/4 tons) in their turning out condition;
 - (ii) gravity type for operating lifeboats weighing more than 2,300 kilogrammes (21/4 tons) in their turning out condition.

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

- (g) Davits, falls, blocks and all other gear shall be of such strength that the lifeboats can be turned out manned by a launching crew and then safely lowered with the full complement of persons and equipment, with the ship listed to 15 degrees either way and with a 10 degrees trim.
- (h) Skates or other suitable means shall be provided to facilitate launching the lifeboats against a list of 15 degrees.
- (i) Means shall be provided for bringing the lifeboats against the ship's side and there holding them so that persons may be safely embarked.
- (j) Lifeboats, together with the emergency boats required by Regulation 27 of this Chapter, shall be served by wire rope falls, together with winches of an approved type which, in the case of the emergency boats, shall be capable of quick recovery of those boats. Exceptionally, the Administration may allow manila rope falls or falls of another approved material with or without winches (except that the emergency boats shall be required to be served by winches which are capable of quick recovery of those boats) where they are satisfied that manila rope falls or falls of another approved material are adequate.
- (k) At least two lifelines shall be fitted to the davit span, and the falls and lifelines shall be long enough to reach the water with the ship at its lightest seagoing draught and listed to 15 degrees either way. Lower fall blocks shall be fitted with a suitable ring or long link for attaching to the sling hooks unless an approved type of disengaging gear is fitted.
- (l) Where mechanically-powered appliances are fitted for the recovery of the lifeboats, efficient hand gear shall also be provided. Where davits are recovered by action of the falls by power, safety devices shall be fitted which will automatically cut off the power before the davits come against the stops in order to avoid overstressing the wire rope falls or davits.
- (m) Lifeboats attached to davits shall have the falls ready for service and arrangements shall be made for speedily, but not necessarily simultaneously, detaching the lifeboats from the falls. The point of attachment of the lifeboats to the falls shall be at such height above the gunwale as to ensure stability when lowering the lifeboats.
- (n)
 - (i) In passenger ships engaged on international voyages which are not short international voyages in which there are carried lifeboats and liferafts in accordance with sub-paragraph (b)(i) of Regulation 27 of this Chapter, there shall be provided approved launching devices sufficient in number in the opinion of the Administration to enable that number of liferafts which, together with the lifeboats, is required in accordance with that sub-paragraph to provide accommodation for all on board, to be put into the water loaded with the number of persons they are permitted to accommodate, in not more than thirty minutes in calm conditions. Approved launching devices so provided shall, so far as practicable, be distributed equally on each side of the ship and there

shall never be less than one such device on each side. No such devices need, however, be provided for the additional liferafts required to be carried by sub-paragraph (b)(ii) of Regulation 27 of this Chapter for 25 per cent of all on board, but every liferaft carried in accordance with that sub-paragraph shall, where an approved launching device is provided in the ship, be of a type which is capable of being launched from such a device.

- (ii) In passenger ships engaged on short international voyages, the number of approved launching devices to be provided shall be at the discretion of the Administration. The number of liferafts allocated to each such device carried shall not be more than the number which, in the opinion of the Administration, can be put into the water fully loaded with the number of persons they are permitted to carry by that device in not more than 30 minutes in calm conditions.

Regulation 30

Lighting for Decks, Lifeboats, Liferafts, etc.

- (a) Provision shall be made for an electric or equivalent system of lighting sufficient for all the requirements of safety in the different parts of a passenger ship, and particularly for decks on which the lifeboats and liferafts are stowed. The self-contained emergency source of electrical power required by Regulation 25 of Chapter II-1 shall be capable of supplying where necessary this lighting system and also the lighting required by sub-paragraphs (a)(ii), (b)(ii) and (b)(iii) of Regulation 19 of this Chapter.
- (b) The exit from every main compartment occupied by passengers or crew shall be continuously lighted by an emergency lamp. The power for these emergency lamps shall be so arranged that they will be supplied from the emergency source of power referred to in paragraph (a) of this Regulation in the event of failure of the main generating plant.

Regulation 31

Manning of Lifeboats and Liferafts

- (a) A deck officer or certified lifeboatman shall be placed in charge of each lifeboat and a second-in-command shall also be nominated. The person in charge shall have a list of the lifeboat's crew, and shall see that the men placed under his orders are acquainted with their several duties.
 - (b) A man capable of working the motor shall be assigned to each motor lifeboat.
 - (c) A man capable of working the radio and searchlight installations shall be assigned to each lifeboat carrying this equipment.
 - (d) A man practised in the handling and operation of liferafts shall be assigned to each liferaft carried, except where in ships engaged on short international voyages the Administration is satisfied that this is not practicable.
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Regulation 32
Certificated Lifeboatmen

- (a) In passenger ships there shall be, for every lifeboat carried in order to comply with this Chapter, a number of lifeboatmen at least equal to that specified in the following table:

<i>Prescribed complement of lifeboat</i>	<i>The minimum number of certificated lifeboatmen shall be</i>
<i>Less than 41 persons</i>	<i>2</i>
<i>From 41 to 61 persons</i>	<i>3</i>
<i>From 62 to 85 persons</i>	<i>4</i>
<i>Above 85 persons</i>	<i>5</i>

- (b) The allocation of the certificated lifeboatmen to each lifeboat remains within the discretion of the master.
- (c) Certificates of efficiency shall be issued under the authority of the Administration. In order to obtain such a certificate an applicant shall prove that he has been trained in all the operations connected with launching lifeboats and other life-saving appliances and in the use of oars and propelling gear; that he is acquainted with the practical handling of lifeboats and of other life-saving equipment, and further, that he is capable of understanding and answering the orders relative to all kinds of life-saving appliances.

Regulation 33
Buoyant Apparatus

- (a) No type of buoyant apparatus shall be approved unless it satisfies the following conditions:
- (i) It shall be of such size and strength that it can be thrown from the place where it is stowed into the water without being damaged.
 - (ii) It shall not exceed 180 kilogrammes (400 lbs.) in weight unless suitable means to the satisfaction of the Administration are provided to enable it to be launched without lifting by hand.
 - (iii) It shall be of approved material and construction.
 - (iv) It shall be effective and stable when floating either way up.
 - (v) The air cases or equivalent buoyancy shall be placed as near as possible to the sides of the apparatus, and such buoyancy shall not be dependent upon inflation.
 - (vi) It shall be fitted with a painter and have a line securely becketed round the outside.
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- (b) The number of persons for which buoyant apparatus is certified shall be the number:
- (i) ascertained by dividing the number of kilogrammes of iron which it is capable of supporting in fresh water by 14.5 (or the number of pounds divided by 32), or
 - (ii) equal to the number of millimetres in the perimeter divided by 305 (or the number of feet in the perimeter), whichever is the less.

Regulation 34
Number of Lifebuoys to Be Provided

The minimum number of lifebuoys with which passenger ships are provided shall be fixed by the following table:

<i>Length of ship</i>		<i>Minimum number of buoys</i>
<i>In metres</i>	<i>In feet</i>	
Under 61	Under 200	8
61 and under 122	200 and under 400	12
122 and under 183	400 and under 600	18
183 and under 244	600 and under 800	24
244 and over	800 and over	30

PART C –
CARGO SHIPS ONLY

Regulation 35
Number and Capacity of Lifeboats and Liferafts

- (a)
- (i) Every cargo ship, except ships employed as whale factory ships, fish processing or canning factory ships, and ships engaged in the carriage of persons employed in the whaling, fish processing or canning industries, shall carry lifeboats on each side of the ship of such aggregate capacity as will accommodate all persons on board, and in addition shall carry liferafts sufficient to accommodate half that number.

Provided that, in the case of such cargo ships engaged on international voyages between near neighbouring countries, the Administration, if it is satisfied that the conditions of the voyage are such as to render the compulsory carriage of liferafts unreasonable or unnecessary, may to that extent exempt individual ships or classes of ships from this requirement.

- (ii)
- (1) Subject to the provisions of sub-paragraph (ii)(2) of this paragraph, every tanker of 3,000 tons gross tonnage and upwards shall carry not less than four lifeboats, two of which shall be carried aft and two amidships, except that in tankers which have no amidships superstructure all lifeboats shall be carried aft.
 - (2) A tanker of 3,000 tons gross tonnage and upwards which has no amidships superstructure may be permitted by the Administration to carry two lifeboats only, provided that:
 - (aa) one lifeboat is carried aft on each side of the ship;
 - (bb) each such lifeboat shall not exceed 8.5 metres (28 feet) in length;
 - (cc) each such lifeboat shall be stowed as far forward as practicable, but at least so far forward that the after end of the lifeboat is one-and-a-half times the length of the lifeboat forward of the propeller; and
 - (dd) each such lifeboat shall be stowed as near sea level as is safe and practicable.
- (b)
- (i) Every ship employed as a whale factory ship, every ship employed as a fish processing or canning factory ship and every ship engaged in the carriage of persons employed in the whaling, fish processing or canning industries shall carry:
 - (1) Lifeboats on each side of such aggregate capacity as will accommodate half the total number of persons on board; provided that the Administration may permit the substitution of lifeboats by liferafts of the same total capacity so however that there shall never be less than sufficient lifeboats on each side of the ship to accommodate 371/2 per cent of all on board.
 - (2) Liferafts of sufficient aggregate capacity to accommodate half the total number of persons on board; provided that, if in ships employed as fish processing or canning factory ships, it is impracticable to carry lifeboats which comply fully with the requirements of this Chapter, the Administration may permit instead the carriage of other boats, which shall however provide not less than the accommodation required by this Regulation and shall have at least the buoyancy and equipment required by this Chapter for lifeboats.
 - (ii) Every ship employed as a whale factory ship, every ship employed as a fish processing or canning factory ship and every ship engaged in the carriage of persons employed in the whaling, fish processing or canning industries shall carry two boats - one on each side - for use in an emergency. These boats shall be of an approved type and shall be not more than 8.5 metres (28 feet) in length. They may be counted for the purposes of this paragraph provided that they comply fully with the requirements for lifeboats of this Chapter and for the purposes of Regulation 8 provided that in addition
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they comply with the requirements of Regulation 9, and, where appropriate, Regulation 14 of this Chapter. They shall be kept ready for immediate use while the ship is at sea. In ships in which the requirements of paragraph (g) of Regulation 36 of this Chapter are met by means of appliances fitted to the sides of the lifeboats, such appliances shall not be required to be fitted to the two boats provided to meet the requirements of this Regulation.

- (c) Every cargo ship with no amidships superstructure having a registered length of 150 metres (492 feet) and upwards shall carry, in addition to the liferafts required under subparagraph (a)(i) of this Regulation, a liferaft capable of accommodating at least six persons which shall be stowed as far forward as is reasonable and practicable.

Regulation 36
Davits and Launching Arrangements

- (a) In cargo ships lifeboats and liferafts shall be stowed to the satisfaction of the Administration.
- (b) Every lifeboat shall be attached to a separate set of davits.
- (c) Lifeboats and liferafts for which approved launching devices are required to be carried shall preferably be positioned as close to accommodation and service spaces as possible. They shall be stowed in such positions as to ensure safe launching, having particular regard to clearance from the propeller and steeply overhanging portions of the hull, with the object of ensuring so far as practicable that they can be launched down the straight side of the ship. If positioned forward they shall be stowed abaft the collision bulkhead in a sheltered position and in this respect the Administration shall give special consideration to the strength of the davits.
- (d) Davits shall be of approved design and shall be suitably placed to the satisfaction of the Administration.
- (e) In tankers of 1,600 tons gross tonnage and upwards, ships employed as whale factory ships, ships employed as fish processing or canning factory ships and ships engaged in the carriage of persons employed in the whaling, fish processing or canning industries, all davits shall be of the gravity type. In other ships, davits shall be as follows:
- (i) luffing or gravity type for operating lifeboats weighing not more than 2,300 kilogrammes (21/4 tons) in their turning out condition;
 - (ii) gravity type for operating lifeboats weighing more than 2,300 kilogrammes (21/4 tons) in their turning out condition.
- (f) Davits, falls, blocks and all other gear shall be of such strength that the lifeboats can be turned out manned by a launching crew and then safely lowered with the full complement

- of persons and equipment, with the ship listed to 15 degrees either way, and with a 10 degrees trim.
- (g) Skates or other suitable means shall be provided to facilitate launching the lifeboats against a list of 15 degrees.
- (h) Means shall be provided for bringing the lifeboats against the ship' s side and there holding them so that persons may be safely embarked.
- (i) Lifeboats, together with the emergency boats required by sub-paragraph (b)(ii) of Regulation 35 of this Chapter, shall be served by wire rope falls, together with winches of an approved type which, in the case of the emergency boats, shall be capable of quick recovery of those boats. Exceptionally, the Administration may allow manila rope falls or falls of another approved material with or without winches (except that the emergency boats shall be required to be served by winches which are capable of quick recovery of those boats) where they are satisfied that manila rope falls or falls of another approved material are adequate.
- (j) At least two lifelines shall be fitted to the davit spans, and the falls and lifelines shall be long enough to reach the water with the ship at its lightest sea-going draught and listed to 15 degrees either way. Lower fall blocks shall be fitted with a suitable ring or long link for attaching to the sling hooks unless an approved type of disengaging gear is fitted.
- (k) Where mechanically powered appliances are fitted for the recovery of the lifeboats, efficient hand gear shall also be provided. Where davits are recovered by action of the falls by power, safety devices shall be fitted which will automatically cut off the power before the davits come against the stops in order to avoid overstressing the wire rope falls or davits.
- (l) Lifeboats shall have the falls ready for service, and arrangements shall be made for speedily, but not necessarily simultaneously, detaching the lifeboats from the falls. The point of attachment of the lifeboats to the falls shall be at such height above the gunwale as to ensure stability when lowering the lifeboats.
- (m) In ships employed as whale factory ships, ships employed as fish processing or canning factory ships and ships engaged in the carriage of persons employed in the whaling, fish processing or canning industries, in which there are carried lifeboats and liferafts in accordance with sub-paragraph (b)(i)(2) of Regulation 35 no approved launching devices need be provided for the liferafts, but there shall be provided such devices sufficient in number, in the opinion of the Administration, to enable the liferafts carried in accordance with sub-paragraph (b)(i)(1) of that Regulation to be put into the water loaded with the number of persons they are permitted to accommodate, in not more than 30 minutes in calm conditions. Approved launching devices so provided shall, so far as practicable, be distributed equally on each side of the ship. Every liferaft carried on ships in which an approved launching device is required to be provided shall be of a type which is capable of being launched by such a device.
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Regulation 37
Number of Lifebuoys to Be Provided

At least eight lifebuoys of a type which satisfies the requirements of Regulation 21 of this Chapter shall be carried.

Regulation 38
Emergency Lighting

The lighting required by sub-paragraphs (a)(ii), (b)(ii) and (b)(iii) of Regulation 19 of this Chapter shall be capable of being supplied for at least three hours by the emergency source of power required by Regulation 26 of Chapter II-1. In cargo ships of 1,600 tons gross tonnage and upwards the Administration shall ensure that the lighting of the alleyways, stairways and exits is such that the access of all persons on board to the launching stations and stowage positions of lifeboats and liferafts is not impeded.

CHAPTER IV
RADIOTELEGRAPHY AND RADIOTELEPHONY

PART A
APPLICATION AND DEFINITIONS

Regulation 1
Application

- (a) Unless expressly provided otherwise, this Chapter applies to all ships to which the present Regulations apply.
- (b) This Chapter does not apply to ships to which present Regulations would otherwise apply while such ships are being navigated within the Great Lakes of North America and their connecting and tributary waters as far east as the lower exit of the St. Lambert Lock at Montreal in the Province of Quebec, Canada.
- (c) No provision in this Chapter shall prevent the use by a ship or survival craft in distress of any means at its disposal to attract attention, make known its position and obtain help.

Regulation 2
Terms and Definitions

For the purpose of this Chapter the following terms shall have the meanings defined below. All other terms which are used in this Chapter and which are also defined in the Radio Regulations shall have the same meanings as defined in those Regulations:

- (a) "Radio Regulations" means the Radio Regulations annexed to, or regarded as being annexed to, the most recent International Telecommunication Convention which may be in force at any time.
- (b) "Radiotelegraph auto alarm" means an automatic alarm receiving apparatus which responds to the radiotelegraph alarm signal and has been approved.
- (c) "Radiotelephone auto alarm" means an automatic alarm receiving apparatus which responds to the radiotelephone alarm signal and has been approved.
- (d) "Radiotelephone station", "Radiotelephone installation" and "Watches - radiotelephone" shall be considered as relating to the medium frequency band, unless expressly provided otherwise.
- (e) "Radio Officer" means a person holding at least a first or second class radiotelegraph operator's certificate, or a radio communication operator's general certificate for the maritime mobile service, complying with the provisions of the Radio Regulations, who is employed in the radiotelegraph station of a ship which is provided with such a station in compliance with the provisions of Regulation 3 or Regulation 4 of this Chapter.
- (f) "Radiotelephone operator" means a person holding an appropriate certificate complying with the provisions of the Radio Regulations.
- (g) "Existing installation" means:
 - (i) an installation wholly installed on board a ship before the date on which the present Convention enters into force irrespective of the date on which acceptance by the respective Administration takes effect; and
 - (ii) an installation part of which was installed on board a ship before the date of entry into force of the present Convention and the rest of which consists either of parts installed in replacement of identical parts, or parts which comply with the requirements of this Chapter.
- (h) "New installation" means any installation which is not an existing installation.

Regulation 3
Radiotelegraph Station

Passenger ships irrespective of size and cargo ships of 1,600 tons gross tonnage and upwards, unless exempted under Regulation 5 of this Chapter, shall be fitted with a radiotelegraph station complying with the provisions of Regulations 9 and 10 of this Chapter.

Regulation 4
Radiotelephone Station

Cargo ships of 300 tons gross tonnage and upwards but less than 1,600 tons gross tonnage, unless fitted with a radiotelegraph station complying with the provisions of Regulations 9 and 10 of this Chapter shall, provided they are not exempted under Regulation 5 of this Chapter, be fitted with a radiotelephone station complying with the provisions of Regulations 15 and 16 of this Chapter.

Regulation 5
Exemptions from Regulations 3 and 4

- (a) The Contracting Governments consider it highly desirable not to deviate from the application of Regulations 3 and 4 of this Chapter; nevertheless the Administration may grant to individual passenger or cargo ships exemptions of a partial and/or conditional nature, or complete exemption from the requirements of Regulation 3 or Regulation 4 of this Chapter.
- (b) The exemptions permitted under paragraph (a) of this Regulation shall be granted only to a ship engaged on a voyage where the maximum distance of the ship from the shore, the length of the voyage, the absence of general navigational hazards, and other conditions affecting safety are such as to render the full application of Regulation 3 or Regulation 4 of this Chapter unreasonable or unnecessary. When deciding whether or not to grant exemptions to individual ships, Administrations shall have regard to the effect that exemptions may have upon the general efficiency of the distress service for the safety of all ships. Administrations should bear in mind the desirability of requiring ships which are exempted from the requirement of Regulation 3 of this Chapter to be fitted with a radiotelephone station which complies with the provisions of Regulations 15 and 16 of this Chapter as a condition of exemption.
- (c) Each Administration shall submit to the Organization as soon as possible after the first of January in each year a report showing all exemptions granted under paragraphs (a) and (b) of this Regulation during the previous calendar year and giving the reasons for granting such exemptions.

PART B
WATCHES

Regulation 6
Watches – Radiotelegraph

- (a) Each ship which in accordance with Regulation 3 or Regulation 4 of this Chapter is fitted with a radiotelegraph station shall, while at sea, carry at least one radio officer and, if not
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fitted with a radiotelegraph auto alarm shall, subject to the provisions of paragraph (d) of this Regulation, listen continuously on the radiotelegraph distress frequency by means of a radio officer using headphones or a loudspeaker.

- (b) Each passenger ship which in accordance with Regulation 3 of this Chapter is fitted with a radiotelegraph station, if fitted with a radiotelegraph auto alarm, shall, subject to the provisions of paragraph (d) of this Regulation, and while at sea, listen on the radiotelegraph distress frequency by means of a radio officer using headphones or a loudspeaker, as follows:
- (i) if carrying or certificated to carry 250 passengers or less, at least 8 hours listening a day in the aggregate;
 - (ii) if carrying or certificated to carry more than 250 passengers and engaged on a voyage exceeding 16 hours' duration between two consecutive ports, at least 16 hours' listening a day in the aggregate. In this case the ship shall carry at least two radio officers;
 - (iii) if carrying or certificated to carry more than 250 passengers and engaged on a voyage of less than 16 hours' duration between two consecutive ports, at least 8 hours' listening a day in the aggregate.
- (c)
- (i) Each cargo ship which in accordance with Regulation 3 of this Chapter is fitted with a radiotelegraph station, if fitted with a radiotelegraph auto alarm, shall, subject to the provisions of paragraph (d) of this Regulation, and while at sea, listen on the radiotelegraph distress frequency by means of a radio officer using headphones or a loudspeaker, for at least 8 hours a day in the aggregate.
 - (ii) Each cargo ships of 300 tons gross tonnage and upwards but less than 1,600 tons gross tonnage which is fitted with a radiotelegraph station as a consequence of Regulation 4 of this Chapter, if fitted with a radiotelegraph auto alarm shall, subject to the provisions of paragraph (d) of this Regulation, and while at sea, listen on the radiotelegraph distress frequency by means of a radio officer using headphones or a loudspeaker, during such periods as may be determined by the Administration. Administrations shall, however, have regard to the desirability of requiring, whenever practicable, a listening watch of at least 8 hours a day in the aggregate.
- (d)
- (i) During the period when a radio officer is required by this Regulation to listen on the radiotelegraph distress frequency, the radio officer may discontinue such listening during the time when he is handling traffic on other frequencies, or performing other essential radio duties, but only if it is impracticable to listen by split headphones or loudspeaker. The listening watch shall always be maintained by a radio officer using
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headphones or a loudspeaker during the silence periods provided for by the Radio Regulations.

The term "essential radio duties" in this paragraph includes urgent repairs of:

- 1) equipment for radiocommunication used for safety;
- 2) radio navigational equipment by order of the master.

(ii) In addition to the provisions of sub-paragraph (i) of this paragraph, on ships other than multi-radio officer passenger ships, the radio officer may, in exceptional cases, i.e. when it is impractical to listen by split headphones or loudspeaker, discontinue listening by order of the master in order to carry out maintenance required to prevent imminent malfunction of:

- equipment for radiocommunication used for safety;
- radio navigational equipment;
- other electronic navigational equipment including its repair;

provided that:

- (1) the radio officer, at the discretion of the Administration concerned, is appropriately qualified to perform these duties; and
- (2) the ship is fitted with a receiving selector which meets the requirements of the Radio Regulations;
- (3) the listening watch is always maintained by a radio officer using headphones or loudspeaker during the silence periods provided for by the Radio Regulations.

(e) In all ships fitted with a radiotelegraph auto alarm this radiotelegraph auto alarm shall, while the ship is at sea, be in operation whenever there is no listening being kept under paragraphs (b), (c) or (d) of this Regulation and, whenever practicable, during direction-finding operations.

(f) The listening periods provided for by this Regulation, including those which are determined by the Administration, should be maintained preferably during periods prescribed for the radiotelegraph service by the Radio Regulations.

Regulation 7
Watches – Radiotelephone

- (a) Each ship which is fitted with a radiotelephone station in accordance with Regulation 4 of this Chapter shall, for safety purposes, carry at least on radiotelephone operator (who may be the master, an officer or a member of the crew holding a certificate for radiotelephony) and shall, while at sea, maintain continuous watch on the radiotelephone distress frequency in the place on board from which the ship is usually navigated, by use of a radiotelephone distress frequency watch receiver, using a loudspeaker, a filtered loudspeaker or radiotelephone auto alarm.
- (b) Each ship which in accordance with Regulation 3 or Regulation 4 of this Chapter is fitted with a radiotelegraph station shall, while at sea, maintain continuous watch on the radiotelephone distress frequency in a place to be determined by the Administration, by use of a radiotelephone distress frequency watch receiver, using a loudspeaker, a filtered loudspeaker or radiotelephone auto alarm.

Regulation 8
Watches - VHF Radiotelephone

Each ship provided with a Very High Frequency (VHF) radiotelephone station, in accordance with Regulation 18 of Chapter V, shall maintain a listening watch on the bridge for such periods and on such channels as may be required by the Contracting Government referred to in that Regulation.

PART C
TECHNICAL REQUIREMENTS

Regulation 9
Radiotelegraph Stations

- (a) The radiotelegraph station shall be so located that no harmful interference from extraneous mechanical or other noise will be caused to the proper reception of radio signals. The station shall be placed as high in the ship as is practicable, so that the greatest possible degree of safety may be secured.
- (b) The radiotelegraph operating room shall be of sufficient size and of adequate ventilation to enable the main and reserve radiotelegraph installations to be operated efficiently, and shall not be used for any purpose which will interfere with the operation of the radiotelegraph station.
- (c) The sleeping accommodation of at least one radio officer shall be situated as near as practicable to the radiotelegraph operating room. In new ships, this sleeping accommodation shall not be within the radiotelegraph operating room.

- (d) There shall be provided between the radiotelegraph operating room and the bridge and one other place, if any, from which the ship is navigated, an efficient two-way system for calling and voice communication which shall be independent of the main communication system on the ship.
- (e) The radiotelegraph installation shall be installed in such a position that it will be protected against the harmful effects of water or extremes of temperature. It shall be readily accessible both for immediate use in case of distress and for repair.
- (f) A reliable clock with a dial not less than 12.5 centimetres (5 inches) in diameter and a concentric seconds hand, the face of which is marked to indicate the silence periods prescribed for the radiotelegraph service by the Radio Regulations, shall be provided. It shall be securely mounted in the radiotelegraph operating room in such a position that the entire dial can be easily and accurately observed by the radio officer from the radiotelegraph operating position and from the position for testing the radiotelegraph auto alarm receiver.
- (g) A reliable emergency light shall be provided in the radiotelegraph operating room, consisting of an electric lamp permanently arranged so as to provide satisfactory illumination of the operating controls of the main and reserve radiotelegraph installations and of the clock required by paragraph (f) of this Regulation. In new installations, this lamp shall, if supplied from the reserve source of energy required by sub-paragraph (a)(iii) of Regulation 10 of this Chapter, be controlled by two-way switches placed near the main entrance to the radiotelegraph operating room and at the radiotelegraph operation position, unless the layout of the radiotelegraph operating room does not warrant it. These switches shall be clearly labelled to indicate their purpose.
- (h) Either an electric inspection lamp, operated from the reserve source of energy required by sub-paragraph (a)(iii) of Regulation 10 of this Chapter and provided with a flexible lead of adequate length, or a flashlight shall be provided and kept in the radiotelegraph operating room.
- (i) The radiotelegraph station shall be provided with such spare parts, tools and testing equipment as will enable the radiotelegraph installation to be maintained in efficient working condition while at sea. The testing equipment shall include an instrument or instruments for measuring A.C. volts, D.C. volts and ohms.
- (j) If a separate emergency radiotelegraph operating room is provided the requirements of paragraphs (d), (e), (f), (g) and (h) of this Regulation shall apply to it.

Regulation 10
Radiotelegraph Installations

- (a) Except as otherwise expressly provided in this Regulation:
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International Convention for the Safety of Life at Sea

- (i) The radiotelegraph station shall include a main installation and reserve installation, electrically separate and electrically independent of each other.
 - (ii) The main installation shall include a main transmitter, main receiver, radiotelephone distress frequency watch receiver, and main source of energy.
 - (iii) The reserve installation shall include a reserve transmitter, reserve receiver and reserve source of energy.
 - (iv) A main and a reserve antenna shall be provided and installed, provided that the Administration may exempt any ship from the provision of a reserve antenna if it is satisfied that the fitting of such an antenna is impracticable or unreasonable, but in such case a suitable spare antenna completely assembled for immediate installation shall be carried. In addition, sufficient antenna wire and insulators shall in all cases be provided to enable a suitable antenna to be erected. The main antenna, if suspended between supports liable to whipping, shall be suitably protected against breakage.
- (b) In installations on cargo ships (except those on cargo ships of 1,600 tons gross tonnage and upwards installed on or after 19 November 1952), if the main transmitter complies with all the requirements for the reserve transmitter, the latter is not obligatory.
- (c)
- (i) The main and reserve transmitters shall be capable of being quickly connected with and tuned to the main antenna, and the reserve antenna if one is fitted.
 - (ii) The main and reserve receivers shall be capable of being quickly connected with any antenna with which they are required to be used.
- (d) All parts of the reserve installation shall be placed as high in the ship as is practicable, so that the greatest possible degree of safety may be secured.
- (e) The main and reserve transmitters shall be capable of transmitting on the radiotelegraph distress frequency using a class of emission assigned by the Radio Regulations for that frequency. In addition, the main transmitter shall be capable of transmitting on at least two working frequencies in the authorized bands between 405 kHz and 535 kHz, using classes of emission assigned by the Radio Regulations for these frequencies. The reserve transmitter may consist of a ship's emergency transmitter, as defined in and limited in use by the Radio Regulations.
- (f) The main and reserve transmitters shall, if modulated emission is prescribed by the Radio Regulations, have a depth of modulation of not less than 70 per cent and a note frequency between 450 and 1,350 Hz.
- (g) The main and reserve transmitters shall, when connected to the main antenna, have a minimum normal range as specified below, that is to say, they must be capable of
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transmitting clearly perceptible signals from ship to ship by day and under normal conditions and circumstances over the specified ranges.

$$\frac{\text{effective antenna height}}{\text{maximum antenna height}} = 0.47 \quad \frac{\text{radiated antenna power}}{\text{total antenna power}} = 0.08$$

(Clearly perceptible signals will normally be received if the R.M.S. value of the field strength at the receiver is at least 50 microvolts per metre.)

	<i>Minimum normal range in miles</i>	
	<i>Main transmitter</i>	<i>Reserve transmitter</i>
All passenger ships, and cargo ships of 1,600 tons gross tonnage and upwards	150	100
Cargo ships below 1,600 tons gross tonnage	100	75

- (h)
- (i) The main and reserve receivers shall be capable of receiving the radiotelegraph distress frequency and the classes of emission assigned by the Radio Regulations for that frequency.
 - (ii) In addition, the main receiver shall permit the reception of such of the frequencies and classes of emission used for the transmission of time signals, meteorological messages and such other communications relating to safety of navigation as may be considered necessary by the Administration.
 - (iii) The radiotelephone distress frequency watch receiver shall be preset to this frequency. It shall be provided with a filtering unit or a device to silence the loudspeaker if on the bridge in the absence of a radiotelephone alarm signal. The device shall be capable of being easily switched in and out and may be used when, in the opinion of the master, conditions are such that maintenance of the listening watch would interfere with the safe navigation of the ship.
 - (iv)
 - (1) A radiotelephone transmitter, if provided, shall be fitted with an automatic device for generating the radiotelephone alarm signal, so designed as to prevent actuation by mistake, and complying with the requirements of paragraph (e) of Regulation 16 of this Chapter. The device shall be capable of being taken out of operation at any time in order to permit the immediate transmission of a distress message.
 - (2) Arrangements shall be made to check periodically the proper functioning of the automatic device for generating the radiotelephone alarm signal on frequencies other than the radiotelephone distress frequency using a suitable artificial antenna.

- (i) The main receiver shall have sufficient sensitivity to produce signals in headphones or by means of a loudspeaker when the receiver input is as low as 50 microvolts. The reserve receiver shall have sufficient sensitivity to produce such signals when the receiver input is as low as 100 microvolts.
- (j) There shall be available at all times, while the ship is at sea, a supply of electrical energy sufficient to operate the main installation over the normal range required by paragraph (g) of this Regulation as well as for the purpose of charging any batteries forming part of the radiotelegraph station. The voltage of the supply for the main installation shall, in the case of new ships, be maintained within 10 per cent of the rated voltage. In the case of existing ships, it shall be maintained as near the rated voltage as possible and, if practicable, within 10 per cent.
- (k) The reserve installation shall be provided with a source of energy independent of the propelling power of the ship and of the ship's electrical system.
- (l)
 - (i) The reserve source of energy shall preferably consist of accumulator batteries, which may be charged from the ship's electrical system, and shall under all circumstances be capable of being put into operation rapidly and of operating the reserve transmitter and receiver for at least six hours continuously under normal working conditions besides any of the additional loads mentioned in paragraphs (m) and (n) of this Regulation.
 - (ii) The reserve source of energy is required to be of a capacity sufficient to operate simultaneously the reserve transmitter and the VHF installation, when fitted, for at least six hours unless a switching device is fitted to ensure alternate operation only. VHF usage of the reserve source of energy shall be limited to distress, urgency and safety communications. Alternatively, a separate reserve source of energy may be provided for the VHF installation.
- (m) The reserve source of energy shall be used to supply the reserve installation and the automatic alarm signal keying device specified in paragraph (r) of this Regulation if it is electrically operated.

The reserve source of energy may also be used to supply:

- (i) the radiotelegraph auto alarm;
- (ii) the emergency light specified in paragraph (g) of Regulation 9 of this Chapter;
- (iii) the direction-finder;
- (iv) the VHF installation;

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International Convention for the Safety of Life at Sea

(v) the device for generating the radiotelephone alarm signal, if provided;

(vi) any device, prescribed by the Radio Regulations, to permit changeover from transmission to reception and vice versa.

Subject to the provisions of paragraph (n) of this Regulation, the reserve source of energy shall not be used other than for the purposes specified in this paragraph.

(n) Notwithstanding the provisions of paragraph (m) of this Regulation, the Administration may authorize the use in cargo ships of the reserve source of energy for a small number of low-power emergency circuits which are wholly confined to the upper part of the ship, such as emergency lighting on the boat deck, on condition that these can be readily disconnected if necessary, and that the source of energy is of sufficient capacity to carry the additional load or loads.

(o) The reserve source of energy and its switchboard shall be as high as practicable in the ship and readily accessible to the radio officer. The switchboard shall, wherever possible, be situated in a radio room; if it is not, it shall be capable of being illuminated.

(p) While the ship is at sea, accumulator batteries, whether forming part of the main installation or reserve installation, shall be brought up to the normal fully-charged condition daily.

(q) All steps shall be taken to eliminate so far as is possible the causes of, and to suppress, radio interference from electrical and other apparatus on board. If necessary, steps shall be taken to ensure that the antennae attached to broadcast receivers do not cause interference to the efficient or correct working of the radiotelegraph installation. Particular attention shall be paid to this requirement in the design of new ships.

(r) In addition to a means for manually transmitting the radiotelegraph alarm signal, an automatic radiotelegraph alarm signal keying device shall be provided, capable of keying the main and the reserve transmitters so as to transmit the radiotelegraph alarm signal. The device shall be capable of being taken out of operation at any time in order to permit immediate manual operation of the transmitter. If electrically operated, this keying device shall be capable of operation from the reserve source of energy.

(s) At sea, the reserve transmitter, if not used for communications, shall be tested daily using a suitable artificial antenna, and at least once during each voyage using the reserve antenna if installed. The reserve source of energy shall also be tested daily.

(t) All equipment forming part of the radiotelegraph installation shall be reliable, and shall be so constructed that it is readily accessible for maintenance purposes.

(u) Notwithstanding the provisions of Regulation 4 of this Chapter, the Administration may, in the case of cargo ships of less than 1,600 tons gross tonnage, relax the full requirements of Regulation 9 of this Chapter and the present Regulation, provided that the

standard of the radiotelegraph station shall in no case fall below the equivalent of that prescribed under Regulation 15 and Regulation 16 of this Chapter for radiotelephone stations, so far as applicable. In particular, in the case of cargo ships of 300 tons gross tonnage and upwards but less than 500 tons gross tonnage, the Administration need not require:

- (i) a reserve receiver;
- (ii) a reserve source of energy in existing installations;
- (iii) protection of the main antenna against breakage by whipping;
- (iv) the means of communication between the radiotelegraph station and the bridge to be independent of the main communication system;
- (v) the range of the transmitter to be greater than 75 miles.

Regulation 11
Radiotelegraph Auto Alarms

- (a) Any radiotelegraph auto alarm installed after 26 May 1965 shall comply with the following minimum requirements:
 - (i) In the absence of interference of any kind it shall be capable of being actuated, without manual adjustment, by any radiotelegraph alarm signal transmitted on the radiotelegraph distress frequency by any coast station, ship's emergency or survival craft transmitter operating in accordance with the Radio Regulations, provided that the strength of the signal at the receiver input is greater than 100 microvolts and less than 1 volt.
 - (ii) In the absence of interference of any kind, it shall be actuated by either three of four consecutive dashes when the dashes vary in length from 3.5 to as near 6 seconds as possible and the spaces vary in length between 1.5 seconds and the lowest practicable value, preferably not greater than 10 milliseconds.
 - (iii) It shall not be actuated by atmospheric or by any signal other than the radiotelegraph alarm signal, provided that the received signals do not in fact constitute a signal falling within the tolerance limits indicated in sub-paragraph (ii) above.
 - (iv) The selectivity of the radiotelegraph auto alarm shall be such as to provide a practically uniform sensitivity over a band extending not less than 4 kHz and not more than 8 kHz on each side of the radiotelegraph distress frequency and to provide outside this band a sensitivity which decreases as rapidly as possible in conformity with the best engineering practice.
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BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

- (v) If practicable, the radiotelegraph auto alarm shall, in the presence of atmospheric or interfering signals, automatically adjust itself so that within a reasonably short time it approaches the condition in which it can most readily distinguish the radiotelegraph alarm signal.
- (vi) When actuated by a radiotelegraph alarm signal, or in the event of failure of the apparatus, the radiotelegraph auto alarm shall cause a continuous audible warning to be given in the radiotelegraph operating room, in the radio officer's sleeping accommodation and on the bridge. If practicable, warning shall also be given in the case of failure of any part of the whole alarm receiving system. Only one switch for stopping the warning shall be provided and this shall be situated in the radiotelegraph operating room.
- (vii) For the purpose of regularly testing the radiotelegraph auto alarm, the apparatus shall include a generator pre-tuned to the radiotelegraph distress frequency and a keying device by means of which a radiotelegraph alarm signal of the minimum strength indicated in sub-paragraph (i) above is produced. A means shall also be provided for attaching headphones for the purpose of listening to signals received on the radiotelegraph auto alarm.
- (viii) The radiotelegraph auto alarm shall be capable of withstanding vibration, humidity and changes of temperature, equivalent to severe conditions experienced on board ships at sea, and shall continue to operate under such conditions.
- (b) Before a new type of radiotelegraph auto alarm is approved, the Administration concerned shall be satisfied, by practical tests made under operating conditions equivalent to those obtaining in practice, that the apparatus complies with paragraph (a) of this Regulation.
- (c) In ships fitted with a radiotelegraph auto alarm, its efficiency shall be tested by a radio officer at least once every 24 hours while at sea. If it is not in working order, the radio officer shall report that fact to the master or officer on watch on the bridge.
- (d) A radio officer shall periodically check the proper functioning of the radiotelegraph auto alarm receiver, with its normal antenna connected, by listening to signals and by comparing them with similar signals received on the radiotelegraph distress frequency on the main installation.
- (e) As far as practicable, the radiotelegraph auto alarm, when connected to an antenna shall not affect the accuracy of the direction-finder.

Regulation 12
Direction-Finders

- (a)
- (i) The direction-finding apparatus required by Regulation 12 of Chapter V shall be efficient and capable of receiving signals with the minimum of receiver noise and of taking bearings from which the true bearing and direction may be determined.
 - (ii) It shall be capable of receiving signals on the radiotelegraph frequencies assigned by the Radio Regulations for the purposes of distress and direction-finding and for maritime radio beacons.
 - (iii) In the absence of interference the direction-finding apparatus shall have a sensitivity sufficient to permit accurate bearings being taken on a signal having a field strength as low as 50 microvolts per metre.
 - (iv) As far as is practicable, the direction-finding apparatus shall be so located that as little interference as possible from mechanical or other noise will be caused to the efficient determination of bearings.
 - (v) As far as is practicable, the direction-finding antenna system shall be erected in such a manner that the efficient determination of bearings will be hindered as little as possible by the close proximity of other antennae, derricks, wire halyards or other large metal objects.
 - (vi) An efficient two-way means of calling and voice communication shall be provided between the direction-finder and the bridge.
 - (vii) All direction-finders shall be calibrated to the satisfaction of the Administration on first installation. The calibration shall be verified by check bearings or by a further calibration whenever any changes are made in the position of any antennae or of any structures on deck which might affect appreciably the accuracy of the direction-finder. The calibration particulars shall be checked at yearly intervals, or as near thereto as possible. A record shall be kept of the calibrations and of any checks made of their accuracy.
- (b)
- (i) Radio equipment for homing on the radiotelephone distress frequency shall be capable of taking direction-finding bearings on that frequency without ambiguity of sense within an arc of 30 degrees on either side of the bow.
 - (ii) When installing and testing the equipment referred to in this paragraph due regard should be given to the relevant recommendation of the International Radio Consultative Committee (CCIR).
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- (iii) All reasonable steps shall be taken to ensure the homing capability required by this paragraph. In cases where due to technical difficulties the homing capability cannot be achieved, Administrations may grant to individual ships exemptions from the requirements of this paragraph.

Regulation 13
Radiotelegraph Installation for Fitting in Motor Lifeboats

- (a) The radiotelegraph installation required by Regulation 14 of Chapter III shall include a transmitter, a receiver and a source of energy. It shall be so designed that it can be used in an emergency by an unskilled person.
- (b) The transmitter shall be capable of transmitting on the radiotelegraph distress frequency using a class of emission assigned by the Radio Regulations for that frequency. The transmitter shall also be capable of transmitting on the frequency, and of using a class of emission, assigned by the Radio Regulations for use by survival craft in the bands between 4,000 kHz and 27,500 kHz.
- (c) The transmitter shall, if modulated emission is prescribed by the Radio Regulations, have a depth of modulation of not less than 70 per cent and a note frequency between 450 and 1,350 Hz.
- (d) In addition to a key for manual transmissions, the transmitter shall be fitted with an automatic keying device for the transmission of the radiotelegraph alarm and distress signals.
- (e) On the radiotelegraph distress frequency the transmitter shall have a minimum normal range (as specified in paragraph (g) of Regulation 10 of this Chapter) of 25 miles using the fixed antenna.
- (f) The receiver shall be capable of receiving the radiotelegraph distress frequency and the classes of emission assigned by the Radio Regulations for that frequency.
- (g) The source of energy shall consist of an accumulator battery with sufficient capacity to supply the transmitter for four hours continuously under normal working conditions. If the battery is of a type that required charging, means shall be available for charging it from the ship's power supply. In addition there shall be a means for charging it after the lifeboat has been launched.
- (h) When the power for the radiotelegraph installation and the searchlight required by Regulation 14 of Chapter III are drawn from the same battery, it shall have sufficient capacity to provide for the additional load of the searchlight.

- (i) A fixed-type antenna will be provided together with means for supporting it at the maximum practicable height. In addition an antenna supported by a kite or balloon shall be provided if practicable.
- (j) At sea a radio officer shall at weekly intervals test the transmitter using a suitable artificial antenna, and shall bring the battery up to full charge if it is of a type which requires charging.

Regulation 14
Portable Radio Apparatus for Survival Craft

- (a) The apparatus required by Regulation 13 of Chapter III shall include a transmitter, a receiver, an antenna and a source of energy. It shall be so designed that it can be used in an emergency by an unskilled person.
- (b) The apparatus shall be readily portable, watertight, capable of floating in sea water and capable of being dropped into the sea without damage. New equipment shall be as light-weight and compact as practicable and shall preferably be capable of use in both lifeboats and liferafts.
- (c) The transmitter shall be capable of transmitting on the radiotelegraph distress frequency using a class of emission assigned by the Radio Regulations for that frequency, and, in the bands between 4,000 kHz and 27,500 kHz, of transmitting on the radiotelegraph frequency, and of using a class of emission assigned by the Radio Regulations for survival craft. However, the Administration may permit the transmitter to be capable of transmitting on the radiotelephone distress frequency, and of using a class of emission assigned by the Radio Regulations for that frequency, as an alternative or in addition to transmission on the radiotelegraph frequency assigned by the Radio Regulations for survival craft in the bands between 4,000 kHz and 27,500 kHz.
- (d) The transmitter shall, if modulated emission is prescribed by the Radio Regulations, have a depth of modulation of not less than 70 per cent and in the case of radiotelegraph emission have a note frequency between 450 and 1,350 Hz.
- (e) In addition to a key for manual transmissions, the transmitter shall be fitted with an automatic keying device for the transmission of the radiotelegraph alarm and distress signals. If the transmitter is capable of transmitting on the radiotelephone distress frequency, it shall be fitted with an automatic device, complying with the requirements of paragraph (e) of Regulation 16 of this Chapter, for transmitting the radiotelephone alarm signal.
- (f) The receiver shall be capable of receiving the radiotelegraph distress frequency and the classes of emission assigned by the Radio Regulations for that frequency. If the transmitter is capable of transmitting on the radiotelephone distress frequency the receiver

shall also be capable of receiving that frequency and a class of emission assigned by the Radio Regulations for that frequency.

- (g) The antenna shall be either self-supporting or capable of being supported by the mast of a lifeboat at the maximum practicable height. In addition it is desirable that an antenna supported by a kite or balloon shall be provided if practicable.
- (h) The transmitter shall supply an adequate radio frequency power to the antenna required by paragraph (a) of this Regulation and shall preferably derive its supply from a hand generator. If operated from a battery, the battery shall comply with conditions laid down by the Administration to ensure that it is of a durable type and is of adequate capacity.
- (i) At sea a radio officer or a radiotelephone operator, as appropriate, shall at weekly intervals test the transmitter, using a suitable artificial antenna and shall bring the battery up to full charge if it is of a type which requires charging.
- (j) For the purpose of this Regulation, new equipment means equipment supplied to a ship after the date of entry into force of the present Convention.

Regulation 15
Radiotelephone Stations

- (a) The radiotelephone station shall be in the upper part of the ship and so located that it is sheltered to the greatest possible extent from noise which might impair the correct reception of messages and signals.
- (b) There shall be efficient communication between the radiotelephone station and the bridge.
- (c) A reliable clock shall be securely mounted in such a position that the entire dial can be easily observed from the radiotelephone operating position.
- (d) A reliable emergency light shall be provided, independent of the system which supplies the normal lighting of the radiotelephone installation, and permanently arranged so as to be capable of providing adequate illumination of the operating controls of the radiotelephone installation, of the clock required by paragraph (c) of this Regulation and of the card of instructions required by paragraph (f).
- (e) Where a source of energy consists of a battery or batteries, the radiotelephone station shall be provided with a means of assessing the charge condition.
- (f) A card of instructions giving a clear summary of the radiotelephone distress procedure shall be displayed in full view of the radiotelephone operating position.

Regulation 16
Radiotelephone Installations

- (a) The radiotelephone installation shall include transmitting and receiving equipment, and appropriate sources of energy (referred to in the following paragraphs as "the transmitter", "the receiver", "the radiotelephone distress frequency watch receiver", and "the source of energy" respectively).
- (b) The transmitter shall be capable of transmitting on the radiotelephone distress frequency and on at least one other frequency in the bands between 1,605 kHz and 2,850 kHz, using the classes of emission assigned by the Radio Regulations for these frequencies. In normal operation a double sideband transmission or a single sideband transmission with full carrier (i.e., A3H) shall have a depth of modulation of at least 70 per cent at peak intensity. Modulation of a single sideband transmission with reduced or suppressed carrier (A3A, A3J) shall be such that the intermodulation products shall not exceed the values given in the Radio Regulations.
- (c)
- (i) In the case of cargo ships of 500 tons gross tonnage and upwards but less than 1,600 tons gross tonnage the transmitter shall have a minimum normal range of 150 miles, i.e., it shall be capable of transmitting clearly perceptible signals from ship to ship by day and under normal conditions and circumstances over this range. (Clearly perceptible signals will normally be received if the R.M.S. value of the field strength produced at the receiver by the unmodulated carrier is at least 25 microvolts per metre.)
- (ii) In the case of cargo ships of 300 tons gross tonnage and upwards but less than 500 tons gross tonnage:
- (1) for existing installations the transmitter shall have a minimum normal range of at least 75 miles; and
- (2) for new installations the transmitter shall produce a power in the antenna of at least 15 watts (unmodulated carrier).
- (d) The transmitter shall be fitted with a device for generating the radiotelephone alarm signal by automatic means so designed as to prevent actuation by mistake. The device shall be capable of being taken out of operation at any time in order to permit the immediate transmission of a distress message. Arrangements shall be made to check periodically the proper functioning of the device on frequencies other than the radiotelephone distress frequency using a suitable artificial antenna.
- (e) The device required by paragraph (d) of this Regulation shall comply with the following requirements:
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- (i) The tolerance of the frequency of each tone shall be 1.5 per cent.
 - (ii) The tolerance on the duration of each tone shall be 50 milliseconds.
 - (iii) The interval between successive tones shall not exceed 50 milliseconds.
 - (iv) The ratio of the amplitude of the stronger tone to that of the weaker shall be within the range 1 to 1.2.
- (f) The receiver required by paragraph (a) of this Regulation shall be capable of receiving the radiotelephone distress frequency and at least one other frequency available for maritime radiotelephone stations in the bands between 1,605 kHz and 2,850 kHz, using the classes of emission assigned by the Radio Regulations for these frequencies. In addition the receiver shall permit the reception of such other frequencies, using the classes of emission assigned by the Radio Regulations, as are used for the transmission by radiotelephony of meteorological messages and such other communications relating to the safety of navigation as may be considered necessary by the Administration. The receiver shall have sufficient sensitivity to produce signals by means of a loudspeaker when the receiver input is as low as 50 microvolts.
- (g) The radiotelephone distress frequency watch receiver shall be preset to this frequency. It shall be provided with a filtering unit or a device to silence the loudspeaker in the absence of a radiotelephone alarm signal. The device shall be capable of being easily switched in and out and may be used when, in the opinion of the master, conditions are such that maintenance of the listening watch would interfere with the safe navigation of the ship.
- (h) To permit rapid change-over from transmission to reception when manual switching is used, the control for the switching device shall, where practicable, be located on the microphone or the telephone handset.
- (i) While the ship is at sea, there shall be available at all times a main source of energy sufficient to operate the installation over the normal range required by paragraph (c) of this Regulation. If batteries are provided they shall under all circumstances have sufficient capacity to operate the transmitter and receiver for at least six hours continuously under normal working conditions. In installations in cargo ships of 500 tons gross tonnage and upwards but less than 1,600 tons gross tonnage made on or after 19 November 1952, a reserve source of energy shall be provided in the upper part of the ship unless the main source of energy is so situated.
- (j) The reserve source of energy, if provided, may be used only to supply:
- (i) the radiotelephone installation;
 - (ii) the emergency light required by paragraph (d) of Regulation 15 of this Chapter;

- (iii) the device required by paragraph (d) of this Regulation, for generating the radiotelephone alarm signal; and
- (iv) the VHF installation.
- (k) Notwithstanding the provisions of paragraph (j) of this Regulation, the Administration may authorize the use of the reserve source of energy, if provided, for a direction-finder, if fitted, and for a number of low-power emergency circuits which are wholly confined to the upper part of the ship, such as emergency lighting on the boat deck, on condition that the additional loads can be readily disconnected, and that the source of energy is of sufficient capacity to carry them.
- (l) While at sea, any battery provided shall be kept charged so as to meet the requirements of paragraph (i) of this Regulation.
- (m) An antenna shall be provided and installed and, if suspended between supports liable to whipping, shall in the case of cargo ships of 500 tons gross tonnage and upwards but less than 1,600 tons gross tonnage be protected against breakage. In addition, there shall be a spare antenna completely assembled for immediate replacement or, where this is not practicable, sufficient antenna wire and insulators to enable a spare antenna to be erected. The necessary tools to erect an antenna shall also be provided.

Regulation 17
VHF Radiotelephone Stations

- (a) When a VHF radiotelephone station is provided in accordance with Regulation 18 of Chapter V, it shall be in the upper part of the ship and include a VHF radiotelephone installation complying with the provisions of this Regulation and comprising a transmitter and receiver, a source of power capable of actuating them at their rated power levels, and an antenna suitable for efficient radiating and receiving signals at the operating frequencies.
- (b) Such a VHF installation shall conform to the requirements laid down in the Radio Regulations for equipment used in the VHF Maritime Mobile Radiotelephone Service and shall be capable of operation on those channels specified by the Radio Regulations and as may be required by the Contracting Government referred to in Regulation 18 of Chapter V.
- (c) The Contracting Government shall not require the transmitter R.F. carrier power output to be greater than 10 watts. The antenna shall, in so far as is practicable, have an unobstructed view in all directions.
- (d) Control of the VHF channels required for navigational safety shall be immediately available on the bridge convenient to the conning position and, where necessary, facilities should also be available to permit radiocommunications from the wings of the bridge.
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Regulation 18
Radiotelephone Auto Alarms

- (a) The radiotelephone auto alarm shall comply with the following minimum requirements:
- (i) the frequencies of maximum response of the tuned circuits, and other tone selecting devices, shall be subject to a tolerance of 1.5 per cent in each instance; and the response shall not fall below 50 per cent of the maximum response for frequencies within 3 per cent of the frequency of maximum response;
 - (ii) in the absence of noise and interference, the automatic receiving equipment shall be capable of operating from the alarm signal in a period of not less than four and not more than six seconds;
 - (iii) the automatic receiving equipment shall respond to the alarm signal, under conditions of intermittent interference caused by atmospherics and powerful signals other than the alarm signal, preferably without any manual adjustment being required during any period of watch maintained by the equipment;
 - (iv) the automatic receiving equipment shall not be actuated by atmospherics or by strong signals other than the alarm signal;
 - (v) the automatic receiving equipment shall be effective beyond the range at which speech transmission is satisfactory;
 - (vi) the automatic receiving equipment shall be capable of withstanding vibration, humidity, changes of temperature and variations in power supply voltage equivalent to the severe conditions experienced on board ships at sea, and shall continue to operate under such conditions;
 - (vii) the automatic receiving equipment should, as far as practicable, give warning of faults that would prevent the apparatus from performing its normal functions during watch hours.
- (b) Before a new type of radiotelephone auto alarm is approved, the Administration concerned shall be satisfied by practical tests, made under operating conditions equivalent to those obtained in practice, that the apparatus complies with paragraph (a) of this Regulation.

**PART D
RADIO LOGS**

**Regulation 19
Radio Logs**

- (a) The radio log (diary of the radio service) required by the Radio Regulations for a ship which is fitted with a radiotelegraph station in accordance with Regulation 3 or Regulation 4 of this Chapter shall be kept in the radiotelegraph operating room during the voyage. Every radio officer shall enter in the log his name, the times at which he goes on and off watch, and all incidents connected with the radio service which occur during his watch which may appear to be of importance to safety of life at sea. In addition, there shall be entered in the log:
- (i) the entries required by the Radio Regulations;
 - (ii) details of the maintenance, including a record of the charging of the batteries, in such form as may be prescribed by the Administration;
 - (iii) a daily statement that the requirement of paragraph (p) of Regulation 10 of this Chapter has been fulfilled;
 - (iv) details of the tests of the reserve transmitter and reserve source of energy made under paragraph (s) of Regulation 10 of this Chapter;
 - (v) in ships fitted with a radiotelegraph auto alarm details of tests made under paragraph (c) of Regulation 11 of this Chapter;
 - (vi) details of the maintenance of the batteries, including a record of the charging (if applicable) required by paragraph (j) of Regulation 13 of this Chapter, and details of the tests required by that paragraph in respect of the transmitters fitted in motor lifeboats;
 - (vii) details of the maintenance of the batteries, including a record of the charging (if applicable) required by paragraph (i) of Regulation 14 of this Chapter, and details of the tests required by that paragraph in respect of portable radio apparatus for survival craft;
 - (viii) the time at which the listening watch was discontinued in accordance with paragraph (d) of Regulation 6 of this Chapter, together with the reason and the time at which the listening watch was resumed.
- (b) The radio log (diary of the radio service) required by the Radio Regulations for a ship which is fitted with a radiotelephone station in accordance with Regulation 4 of this Chapter shall be kept at the place where listening watch is maintained. Every qualified
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operator, and every master, officer or crew member carrying out a listening watch in accordance with Regulation 7 of this Chapter, shall enter in the log, with his name, the details of all incidents connected with the radio service which occur during his watch which may appear to be of importance to safety of life at sea. In addition, there shall be entered in the log:

- (i) the details required by the Radio Regulations;
 - (ii) the time at which listening watch begins when the ship leaves port, and the time at which it ends when the ship reaches port;
 - (iii) the time at which listening watch is for any reason discontinued, together with the reason, and the time at which listening watch is resumed;
 - (iv) details of the maintenance of the batteries (if provided), including a record of the charging required by paragraph (l) of Regulation 16 of this Chapter;
 - (v) details of the maintenance of the batteries, including a record of the charging (if applicable) required by paragraph (i) of Regulation 14 of this Chapter, and details of the tests required by that paragraph in respect of portable radio apparatus for survival craft.
- (c) Radio logs shall be available for inspection by the officers authorized by the Administration to make such inspection.

CHAPTER V SAFETY OF NAVIGATION

Regulation 1 Application

This Chapter, unless otherwise expressly provided in this Chapter, applies to all ships on all voyages, except ships of war and ships solely navigating the Great Lakes of North America and their connecting and tributary waters as far east as the lower exit of the St. Lambert Lock at Montreal in the Province of Quebec, Canada.

Regulation 2 Danger Messages

- (a) The master of every ship which meets with dangerous ice, a dangerous derelict, or any other direct dangers to navigation, or a tropical storm, or encounters sub-freezing air temperatures associated with gale force winds causing severe ice accretion on superstructures, or winds of force 10 or above on the Beaufort scale for which no storm warning has been received, is bound to communicate the information by all the means at

his disposal to ships in the vicinity, and also to the competent authorities at the first point on the coast with which he can communicate. The form in which the information is sent is not obligatory. It may be transmitted either in plain language (preferably English) or by means of the International Code of Signals. It should be broadcast to all ships in the vicinity and sent to the first point on the coast to which communication can be made, with a request that it be transmitted to the appropriate authorities.

- (b) Each Contracting Government will take all steps necessary to ensure that when intelligence of any of the dangers specified in paragraph (a) of this Regulation is received, it will be promptly brought to the knowledge of those concerned and communicated to other interested Governments.
- (c) The transmission of messages respecting the dangers specified is free of cost to the ships concerned.
- (d) All radio messages issued under paragraph (a) of this Regulation shall be preceded by the Safety Signal, using the procedure as prescribed by the Radio Regulations as defined in Regulation 2 of Chapter IV.

Regulation 3 **Information Required in Danger Messages**

The following information is required in danger messages:

- (a) *Ice, derelicts and other direct dangers to navigation*
 - (i) The kind of ice, derelict or danger observed.
 - (ii) The position of the ice, derelict or danger when last observed.
 - (iii) The time and date (Greenwich Mean Time) when danger last observed.
- (b) *Tropical storms (Hurricanes in the West Indies, Typhoons in the China Sea, Cyclones in Indian waters, and storms of a similar nature in other regions)*
 - (i) A statement that a tropical storm has been encountered. The obligation should be interpreted in a broad spirit, and information transmitted whenever the master has good reason to believe that a tropical storm is developing or exists in his neighbourhood.
 - (ii) Time, date (Greenwich Mean Time) and position of ship when the observation was taken.
 - (iii) As much of the following information as is practicable should be included in the message:

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- barometric pressure, preferably corrected (stating millibars, millimetres, or inches, and whether corrected or uncorrected);
- barometric tendency (the change in barometric pressure during the past three hours);
- true wind direction;
- wind force (Beaufort scale);
- state of the sea (smooth, moderate, rough, high);
- swell (slight, moderate, heavy) and the true direction from which it comes. Period or length of swell (short, average, long) would also be of value;
- true course and speed of ship.

(c) *Subsequent observations*

When a master has reported a tropical or other dangerous storm, it is desirable, but not obligatory, that further observations be made and transmitted hourly, if practicable, but in any case at intervals of not more than three hours, so long as the ship remains under the influence of the storm.

(d) *Winds of force 10 or above on the Beaufort scale for which no storm warning has been received*

This is intended to deal with storms other than the tropical storms referred to in paragraph (b) of this Regulation; when such a storm is encountered, the message should contain similar information to that listed under that paragraph but excluding the details concerning sea and swell.

(e) *Sub-freezing air temperatures associated with gale force winds causing severe ice accretion on superstructures*

- (i) Time and date (Greenwich Mean Time).
- (ii) Air temperature.
- (iii) Sea temperature (if practicable).
- (iv) Wind force and direction.

Examples

Ice. TTT Ice. Large berg sighted in 4605 N., 4410 W., at 0800 GMT. May 15.

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Derelicts. TTT Derelict. Observed derelict almost submerged in 4006 N., 1243 W., at 1630 GMT. April 21.

Danger to navigation. TTT Navigation. Alpha lightship not on station. 1800 GMT. January 3.

Tropical storm

- TTT Storm. 0030 GMT. August 18. 2004 N., 11354 E. Barometer corrected 994 millibars, tendency down 6 millibars. Wind NW., force 9, heavy squalls. Heavy easterly swell. Course 067, 5 knots.

- TTT Storm. Appearances indicate approach of hurricane. 1300 GMT. September 14. 2200 N., 7236 W. Barometer corrected 29.64 inches, tendency down .015 inches. Wind NE., force 8, frequent rain squalls. Course 035, 9 knots.

- TTT Storm. Conditions indicate intense cyclone has formed. 0200 GMT. May 4. 1620 N., 9203 E. Barometer uncorrected 753 millimetres, tendency down 5 millimetres. Wind S. by W., force 5. Course 300, 8 knots.

- TTT Storm. Typhoon to southeast. 0300 GMT. June 12. 1812 N., 12605 E. Barometer falling rapidly. Wind increasing from N.

- TTT Storm. Wind force 11, no storm warning received. 0300 GMT. May 4. 4830 N., 30 W. Barometer corrected 983 millibars, tendency down 4 millibars. Wind SW., force 11 veering. Course 260, 6 knots.

Icing. TTT experiencing severe icing. 1400 GMT. March 2. 69 N., 10 W. Air temperature 18. Sea temperature 29. Wind NE., force 8.

Regulation 4
Meteorological Services

- (a) The Contracting Governments undertake to encourage the collection of meteorological data by ships at sea and to arrange for their examination, dissemination and exchange in the manner most suitable for the purpose of aiding navigation. Administrations shall encourage the use of instruments of a high degree of accuracy, and shall facilitate the checking of such instruments upon request.
- (b) In particular, the Contracting Governments undertake to co-operate in carrying out, as far as practicable, the following meteorological arrangements:
- (i) To warn ships of gales, storms and tropical storms, both by the issue of radio messages and by the display of appropriate signals at coastal points.
 - (ii) To issue daily, by radio, weather bulletins suitable for shipping, containing data of existing weather, waves and ice, forecasts and, when practicable, sufficient additional

information to enable simple weather charts to be prepared at sea and also to encourage the transmission of suitable facsimile weather charts.

- (iii) To prepare and issue such publications as may be necessary for the efficient conduct of meteorological work at sea and to arrange, if practicable, for the publication and making available of daily weather charts for the information of departing ships.
 - (iv) To arrange for selected ships to be equipped with tested instruments (such as a barometer, a barograph, a psychrometer, and suitable apparatus for measuring sea temperature) for use in this service, and to take meteorological observations at main standard times for surface synoptic observations (at least four times daily, whenever circumstances permit) and to encourage other ships to take observations in a modified form, particularly when in areas where shipping is sparse; these ships to transmit their observations by radio for the benefit of the various official meteorological services, repeating the information for the benefit of ships in the vicinity. When in the vicinity of a tropical storm, or of a suspected tropical storm, ships should be encouraged to take and transmit their observations at more frequent intervals whenever practicable, bearing in mind navigational preoccupations of ships' officers during storm conditions.
 - (v) To arrange for the reception and transmission by coast radio stations of weather messages from and to ships. Ships which are unable to communicate direct with shore shall be encouraged to relay their weather messages through ocean weather ships or through other ships which are in contact with shore.
 - (vi) To encourage all masters to inform ships in the vicinity and also shore stations whenever they experience a wind speed of 50 knots or more (force 10 on the Beaufort scale).
 - (vii) To endeavour to obtain a uniform procedure in regard to the international meteorological services already specified, and, as far as is practicable, to conform to the Technical Regulations and recommendations made by the World Meteorological Organization, to which the Contracting Governments may refer for study and advice any meteorological question which may arise in carrying out the present Convention.
- (c) The information provided for in this Regulation shall be furnished in form for transmission and transmitted in the order of priority prescribed by the Radio Regulations, and during transmission "to all stations" of meteorological information, forecasts and warnings, all ship stations must conform to the provisions of the Radio Regulations.
 - (d) Forecasts, warnings, synoptic and other meteorological reports intended for ships shall be issued and disseminated by the national service in the best position to serve various zones and areas, in accordance with mutual arrangements made by the Contracting Governments concerned.
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Regulation 5
Ice Patrol Service

- (a) The Contracting Governments undertake to continue an ice patrol and a service for study and observation of ice conditions in the North Atlantic. During the whole of the ice season the south-eastern, southern and south-western limits of the regions of icebergs in the vicinity of the Grand Banks of Newfoundland shall be guarded for the purpose of informing passing ships of the extent of this dangerous region; for the study of ice conditions in general; and for the purpose of affording assistance to ships and crews requiring aid within the limits of operation of the patrol ships. During the rest of the year the study and observation of ice conditions shall be maintained as advisable.
- (b) Ships and aircraft used for the ice patrol service and the study and observation of ice conditions may be assigned other duties by the managing Government, provided that such other duties do not interfere with their primary purpose or increase the cost of this service.

Regulation 6
Ice Patrol. Management and Cost

- (a) The Government of the United States of America agrees to continue the management of the ice patrol service and the study and observation of ice conditions, including the dissemination of information received therefrom. The Contracting Governments specially interested in these services undertake to contribute to the expense of maintaining and operating these services; each contribution to be based upon the total gross tonnage of the vessels of each contributing Government passing through the regions of icebergs guarded by the Ice Patrol; in particular, each Contracting Government specially interested undertakes to contribute annually to the expense of maintaining and operating these services a sum determined by the ratio which the total gross tonnage of that Contracting Government's vessels passing during the ice season through the regions of icebergs guarded by the Ice Patrol bears to the combined total gross tonnage of the vessels of all contributing Governments passing during the ice season through the regions of icebergs guarded by the Ice Patrol. Non-contracting Governments specially interested may contribute to the expense of maintaining and operating these services on the same basis. The managing Government will furnish annually to each contributing Government a statement of the total cost of maintaining and operating the Ice Patrol and the proportionate share of each contributing Government.
- (b) Each of the contributing Governments has the right to alter or discontinue its contribution, and other interested Governments may undertake to contribute to the expense. The contributing Government which avails itself of this right will continue responsible for its current contribution up to 1 September following the date of giving notice of intention to alter or discontinue its contribution. To take advantage of the said right it must give notice to the managing Government at least six months before the said 1 September.

- (c) If, at any time, the United States Government should desire to discontinue these services, or if one of the contributing Governments should express a wish to relinquish responsibility for its pecuniary contribution, or to have its contribution altered, or another Contracting Government should desire to undertake to contribute to the expense, the contributing Governments shall settle the question in accordance with their mutual interests.
- (d) The contributing Governments shall have the right by common consent to make from time to time such alterations in the provisions of this Regulation and of Regulation 5 of this Chapter as appear desirable.
- (e) Where this Regulation provides that a measure may be taken after agreement among the contributing Governments, proposals made by any Contracting Government for effecting such a measure shall be communicated to the managing Government which shall approach the other contributing Governments with a view to ascertaining whether they accept such proposals, and the results of the enquiries thus made shall be sent to the other contributing Governments and the Contracting Government making the proposals. In particular, the arrangements relating to contributions to the cost of the services shall be reviewed by the contributing Governments at intervals not exceeding three years. The managing Government shall initiate the action necessary to this end.

Regulation 7
Speed Near Ice

When ice is reported on or near his course the master of every ship at night is bound to proceed at a moderate speed or to alter his course so as to go well clear of the danger zone.

Regulation 8
Routing

- (a) The practice of following, particularly in converging areas, routes adopted for the purpose of separation of traffic including avoidance of passage through areas designated as areas to be avoided by ships or certain classes of ships, or for the purpose of avoiding unsafe conditions, has contributed to the safety of navigation and is recommended for use by all ships concerned.
- (b) The Organization is recognized as the only international body for establishing and adopting measures on an international level concerning routing and areas to be avoided by ships or certain classes of ships. It will collate and disseminate to Contracting Governments all relevant information.
- (c) The selection of the routes and the initiation of action with regard to them, and the delineation of what constitutes converging areas, will be primarily the responsibility of the Governments concerned. In the development of routing schemes which impinge upon

international waters, or such other schemes they may wish adopted by the Organization, they will give due consideration to relevant information published by the Organization.

- (d) Contracting Governments will use their influence to secure the appropriate use of adopted routes and will do everything in their power to ensure adherence to the measures adopted by the Organization in connexion with routing of ships.
- (e) Contracting Governments will also induce all ships proceeding on voyages in the vicinity of the Grand Banks of Newfoundland to avoid, as far as practicable, the fishing banks of Newfoundland north of latitude 43deg. N and to pass outside regions known or believed to be endangered by ice.

Regulation 9
Misuse of Distress Signals

The use of an international distress signal, except for the purpose of indicating that a ship or aircraft is in distress, and the use of any signal which may be confused with an international distress signal, are prohibited on every ship or aircraft.

Regulation 10
Distress Messages - Obligations and Procedures

- (a) The master of a ship at sea, on receiving a signal from any source that a ship or aircraft or survival craft thereof is in distress, is bound to proceed with all speed to the assistance of the persons in distress informing them if possible that he is doing so. If he is unable or, in the special circumstances of the case, considers it unreasonable or unnecessary to proceed to their assistance, he must enter in the logbook the reason for failing to proceed to the assistance of the persons in distress.
- (b) The master of a ship in distress, after consultation, so far as may be possible, with the masters of the ships which answer his call for assistance, has the right to requisition such one or more of those ships as he considers best able to render assistance, and it shall be the duty of the master or masters of the ship or ships requisitioned to comply with the requisition by continuing to proceed with all speed to the assistance of persons in distress.
- (c) The master of a ship shall be released from the obligation imposed by paragraph (a) of this Regulation when he learns that one or more ships other than his own have been requisitioned and are complying with the requisition.
- (d) The master of a ship shall be released from the obligation imposed by paragraph (a) of this Regulation, and, if his ship has been requisitioned, from the obligation imposed by paragraph (b) of this Regulation, if he is informed by the persons in distress or by the master of another ship which has reached such persons that assistance is no longer necessary.

- (e) The provisions of this Regulation do not prejudice the International Convention for the unification of certain rules of law relating to Assistance and Salvage at Sea, signed at Brussels on 23 September 1910, particularly the obligation to render assistance imposed by Article 11 of that Convention.

Regulation 11
Signalling Lamps

All ships of over 150 tons gross tonnage, when engaged on international voyages, shall have on board an efficient daylight signalling lamp which shall not be solely dependent upon the ship's main source of electrical power.

Regulation 12
Shipborne Navigational Equipment

- (a) All ships of 1,600 tons gross tonnage and upwards shall be fitted with a radar of a type approved by the Administration. Facilities for plotting radar readings shall be provided on the bridge in those ships.
- (b) All ships of 1,600 tons gross tonnage and upwards, when engaged on international voyages, shall be fitted with radio direction-finding apparatus complying with the provisions of Regulation 12 of Chapter IV. The Administration may, in areas where it considers it unreasonable or unnecessary for such apparatus to be carried, exempt any ship of less than 5,000 tons gross tonnage from this requirement, due regard being had to the fact that radio direction-finding apparatus is of value both as a navigational instrument and as an aid to locating ships, aircraft or survival craft.
- (c) All ships of 1,600 tons gross tonnage and upwards, when engaged on international voyages, shall be fitted with a gyro-compass in addition to the magnetic compass. The Administration, if it considers it unreasonable or unnecessary to require a gyro-compass, may exempt any ship of less than 5,000 tons gross tonnage from this requirement.
- (d) All new ships of 500 tons gross tonnage and upwards, when engaged on international voyages, shall be fitted with an echo-sounding device.
- (e) Whilst all reasonable steps shall be taken to maintain the apparatus in an efficient condition, malfunction of the radar equipment, the gyro-compass or the echo-sounding device shall not be considered as making the ship unseaworthy or as a reason for delaying the ship in ports where repair facilities are not readily available.
- (f) All new ships of 1,600 tons gross tonnage and upwards, when engaged on international voyages, shall be fitted with radio equipment for homing on the radiotelephone distress frequency complying with the relevant provisions of paragraph (b) of Regulation 12 of Chapter IV.

Regulation 13

Manning

The Contracting Governments undertake, each for its national ships, to maintain, or, if it is necessary, to adopt, measures for the purpose of ensuring that, from the point of view of safety of life at sea, all ships shall be sufficiently and efficiently manned.

Regulation 14

Aids to Navigation

The Contracting Governments undertake to arrange for the establishment and maintenance of such aids to navigation, including radio beacons and electronic aids as, in their opinion, the volume of traffic justifies and the degree of risk requires, and to arrange for information relating to these aids to be made available to all concerned.

Regulation 15

Search and Rescue

- (a) Each Contracting Government undertakes to ensure that any necessary arrangements are made for coast watching and for the rescue of persons in distress at sea round its coasts. These arrangements should include the establishment, operation and maintenance of such maritime safety facilities as are deemed practicable and necessary having regard to the density of the seagoing traffic and the navigational dangers and should, so far as possible, afford adequate means of locating and rescuing such persons.
- (b) Each Contracting Government undertakes to make available information concerning its existing rescue facilities and the plans for changes therein, if any.

Regulation 16

Life-Saving Signals

The following signals shall be used by life-saving stations and maritime rescue units when communicating with ships or persons in distress and by ships or persons in distress when communicating with life-saving stations and maritime rescue units. The signals used by aircraft engaged in search and rescue operations to direct ships are indicated in paragraph (d) below. An illustrated table describing the signals listed below shall be readily available to the officer of the watch of every ship to which this Chapter applies.

- (a) Replies from life-saving stations or maritime rescue units to distress signals made by a ship or person:

Signal	Signification
<i>By day</i> - Orange smoke signal or combined light and sound signals	You are seen – assistance will be given as soon as possible (Repetition)

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

<p>(thunderlight) consisting of three single signals which are fired at intervals of approximately one minute <i>By night</i> - White star rocket consisting of three single signals which are fired at intervals of approximately one minute.</p>	<p style="text-align: center;">of such signals shall have the same meaning)</p>
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If necessary the day signals may be given at night or the night signals by day.

(b) Landing signals for the guidance of small boats with crews or persons in distress:

Signal	Signification
<p><i>By day</i> – Vertical motion of a white flag or the arms or firing of a green star- signals or signaling the code letter “K” (-.-) given by light or sound signal apparatus <i>By night</i> – Vertical motion of a white light or flare, or firing of a green star signal or signalling the code letter “K” (-.-) given by light or sound signal apparatus. A range (indication of direction) may be given by placing a steady white light or flare at a lower level and in line with the observer</p>	<p>“This is the best place to land.”</p>

Signal	Signification
<p><i>By day</i> - Horizontal motion of a white flag or arms extended horizontally or firing of a red star-signal or signalling the code letter "S" (...) given by light or sound-signal apparatus. <i>By night</i> - Horizontal motion of a white light or flare or firing of a red star-signal or signalling the code letter "S" (...) given by light or sound-signal apparatus.</p>	<p>“Landing here highly dangerous.”</p>

Signal	Signification
<p><i>By day</i> - Horizontal motion of a white flag, followed by the placing of the white flag in the ground and the carrying of another white flag in the direction to be indicated or firing of a red star-signal vertically and a white star-signal in the direction towards the better landing place or signalling the code letter "S" (...)</p>	<p>"Landing here highly dangerous. A more favourable location for landing is in the direction indicated."</p>

<p>followed by the code letter "R" (.-.) if a better landing place for the craft in distress is located more to the right in the direction of approach or the code letter "L" (.-.) if a better landing place for the craft in distress is located more to the left in the direction of approach</p> <p><i>By night</i> - Horizontal motion of a white light or flare, followed by the placing of the white light or flare on the ground and the carrying of another white light or flare in the direction to be indicated or firing of a red star-signal vertically and a white star-signal in the direction towards the better landing place or signalling the code letter "S" (...) followed by code letter "R" (.-.) if a better landing place for the craft in distress is located more to the right in the direction of approach or the code letter "L" (.-.) if a better landing place for the craft in distress is located more to the left in the direction of approach</p>	
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(c) Signals to be employed in connexion with the use of shore life-saving apparatus:

Signal	Signification
<p><i>By day</i> - Vertical motion of a white flag or the arms or firing of a green star-signal.</p> <p><i>By night</i> - Vertical motion of a white light or flare or firing of a green star-signal.</p>	<p>Generally: "Affirmative." Specifically: "Rocket line is held." "Tail bloc is made fast." "Hawser is made fast." "Man is in the breeches buoy." "Haul away."</p>

Signal	Signification
<p><i>By day</i> - Horizontal motion of a white flag or arms extended horizontally or firing of a red star-signal</p> <p><i>By night</i> - Horizontal motion of a white light or flare or firing of a red star-signal</p>	<p>Generally: "Negative." Specifically: "Slack away." "Avast hauling."</p>

(d) Signals used by aircraft engaged on search and rescue operations to direct ships towards an aircraft, ship or person in distress (see explanatory Note below):

- (i) The following procedures performed in sequence by an aircraft mean that the aircraft is directing a surface craft towards an aircraft or a surface craft in distress:

- (1) circling the surface craft at least once;
- (2) crossing the projected course of the surface craft close ahead at a low altitude, opening and closing the throttle or changing the propeller pitch;
- (3) heading in the direction which the surface craft is to be directed.

Repetition of such procedures has the same meaning.

- (ii) The following procedure performed by an aircraft means that the assistance of the surface craft to which the signal is directed is no longer required:

- crossing the wake of the surface craft close astern at a low altitude, opening and closing the throttle or changing the propeller pitch.

Note: Advance notification of changes in these signals will be given by the Organization as necessary.

Regulation 17

Pilot Ladders and Mechanical Pilot Hoists

Ships engaged on voyages in the course of which pilots are likely to be employed shall comply with the following requirements:

(a) *Pilot ladders*

- (i) The ladder shall be efficient for the purpose of enabling pilots to embark and disembark safely, kept clean and in good order and may be used by officials and other persons while a ship is arriving at or leaving a port.
- (ii) The ladder shall be secured in a position so that it is clear from any possible discharges from the ship, that each step rests firmly against the ship's side, that it is clear so far as is practicable of the finer lines of the ship and that the pilot can gain safe and convenient access to the ship after climbing not less than 1.5 metres (5 feet) and not more than 9 metres (30 feet). A single length of ladder shall be used capable of reaching the water from the point of access to the ship; in providing for this due allowance shall be made for all conditions of loading and trim of the ship and for an adverse list of 15 degrees. Whenever the distance from sea level to the point of access to the ship is more than 9 metres (30 feet), access from the pilot ladder to the ship shall be by means of an accommodation ladder or other equally safe and convenient means.

(iii) The steps of the pilot ladder shall be:

- (1) of hardwood, or other material of equivalent properties, made in one piece free of knots, having an efficient non-slip surface; the four lowest steps may be made of rubber of sufficient strength and stiffness or of other suitable material of equivalent characteristics;
- (2) not less than 480 millimetres (19 inches) long, 115 millimetres (4½ inches) wide, and 25 millimetres (1 inch) in depth, excluding any non-slip device;
- (3) equally spaced not less than 300 millimetres (12 inches) nor more than 380 millimetres (15 inches) apart and be secured in such a manner that they will remain horizontal.

(iv) No pilot ladder shall have more than two replacement steps which are secured in position by a method different from that used in the original construction of the ladder and any steps so secured shall be replaced as soon as reasonably practicable by steps secured in position by the method used in the original construction of the ladder. When any replacement step is secured to the side ropes of the ladder by means of grooves in the sides of the step, such grooves shall be in the longer sides of the step.

(v) The side ropes of the ladder shall consist of two uncovered manila ropes not less than 60 millimetres (2¼ inches) in circumference on each side. Each rope shall be continuous with no joints below the top step. Two man-ropes properly secured to the ship and not less than 65 millimetres (2½ inches) in circumference and a safety line shall be kept at hand ready for use if required.

(vi) Battens made of hardwood, or other material of equivalent properties, in one piece and not less than 1.80 metres (5 feet 10 inches) long shall be provided at such intervals as will prevent the pilot ladder from twisting. The lowest batten shall be on the fifth step from the bottom of the ladder and the interval between any batten and the next shall not exceed 9 steps.

(vii) Means shall be provided to ensure safe and convenient passage on to or into and off the ship between the head of the pilot ladder or of any accommodation ladder or other appliance provided. Where such passage is by means of a gateway in the rails or bulwark, adequate handholds shall be provided. Where such passage is by means of a bulwark ladder, such ladder shall be securely attached to the bulwark rail or platform and two handhold stanchions shall be fitted at the point of boarding or leaving the ship not less than 0.70 metre (2 feet 3 inches) nor more than 0.80 metre (2 feet 7 inches) apart. Each stanchion shall be rigidly secured to the ship's structure at or near its base and also at a higher point, shall be not less than 40 millimetres (1½ inches) in diameter and shall extend not less than 1.20 metres (3 feet 11 inches) above the top of the bulwark.

- (viii) Lighting shall be provided at night such that both the pilot ladder overside and also the position where the pilot boards the ship shall be adequately lit. A lifebuoy equipped with a self-igniting light shall be kept at hand ready for use. A heaving line shall be kept at hand ready for use if required.
 - (ix) Means shall be provided to enable the pilot ladder to be used on either side of the ship.
 - (x) The rigging of the ladder and the embarkation and disembarkation of a pilot shall be supervised by a responsible officer of the ship.
 - (xi) Where on any ship constructional features such as rubbing bands would prevent the implementation of any of these provisions, special arrangements shall be made to the satisfaction of the Administration to ensure that persons are able to embark and disembark safely.
- (b) *Mechanical pilot hoists*
- (i) A mechanical pilot hoist, if provided, and its ancillary equipment shall be of a type approved by the Administration. It shall be of such design and construction as to ensure that the pilot can be embarked and disembarked in a safe manner including a safe access from the hoist to the deck and *vice versa*.
 - (ii) A pilot ladder complying with the provisions of paragraph (a) of this Regulation shall be kept on deck adjacent to the hoist and available for immediate use.

Regulation 18
VHF Radiotelephone Stations

When a Contracting Government requires ships navigating in an area under its sovereignty to be provided with a Very High Frequency (VHF) radiotelephone station to be used in conjunction with a system which it has established in order to promote safety of navigation, such station shall comply with the provisions of Regulation 17 of Chapter IV and shall be operated in accordance with Regulation 8 of Chapter IV.

Regulation 19
Use of the Automatic Pilot

- (a) In areas of high traffic density, in conditions of restricted visibility and in all other hazardous navigational situations where the automatic pilot is used, it shall be possible to establish human control of the ship's steering immediately.
 - (b) In circumstances as above, it shall be possible for the officer of the watch to have available without delay the services of a qualified helmsman who shall be ready at all times to take over steering control.
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- (c) The change-over from automatic to manual steering and *vice versa* shall be made by or under the supervision of a responsible officer.

Regulation 20
Nautical Publications

All ships shall carry adequate and up-to-date charts, sailing directions, lists of lights, notices to mariners, tide tables and all other nautical publications necessary for the intended voyage.

Regulation 21
International Code of Signals

All ships which in accordance with the present Convention are required to carry a radiotelegraph or a radiotelephone installation shall carry the International Code of Signals. This publication shall also be carried by any other ship which in the opinion of the Administration has a need to use it.

CHAPTER VI
CARRIAGE OF GRAIN

PART A
GENERAL PROVISIONS

Regulation 1
Application

Unless expressly provided otherwise, this Chapter, including Parts A, B and C, applies to the carriage of grain in all ships to which the present Regulations apply.

Regulation 2
Definitions

- (a) The term "grain" includes wheat, maize (corn), oats, rye, barley, rice, pulses, seeds and processed forms thereof, whose behaviour is similar to that of grain in its natural state.
- (b) The term "filled compartment" refers to any compartment in which, after loading and trimming as required under Regulation 3, the bulk grain is at its highest possible level.
- (c) The term "partly filled compartment" refers to any compartment wherein bulk grain is not loaded in the manner prescribed in paragraph (b) of this Regulation.
- (d) The term "angle of flooding" (r) means an angle of heel at which openings in the hull, superstructures or deckhouses, which cannot be closed weathertight, immerse. In

applying this definition, small openings through which progressive flooding cannot take place need not be considered as open.

Regulation 3
Trimming of Grain

All necessary and reasonable trimming shall be performed to level all free grain surfaces and to minimize the effect of grain shifting.

- (a) In any "filled compartment", the bulk grain shall be trimmed so as to fill all the spaces under the decks and hatch covers to the maximum extent possible.
- (b) After loading, all free grain surfaces in "partly filled compartments" shall be level.
- (c) The Administration issuing the document of authorization may, under Regulation 9 of this Chapter, grant dispensation from trimming in those cases where the underdeck void geometry resulting from free flowing grain into a compartment, which may be provided with feeding ducts, perforated decks or other similar means, is taken into account to its satisfaction when calculating the void depths.

Regulation 4
Intact Stability Requirements

- (a) The calculations required by this Regulation shall be based upon the stability information provided in accordance with Regulation 19 of Chapter II-1, of the present Convention, or with the requirements of the Administration issuing the document of authorization under Regulation 10 of this Chapter.
- (b) The intact stability characteristics of any ship carrying bulk grain shall be shown to meet, throughout the voyage, at least the following criteria after taking into account in the manner described in Part B, the heeling moments due to grain shift:
 - (i) the angle of heel due to the shift of grain shall be not greater than 12 degrees except that an Administration giving authorization in accordance with Regulation 10 of this Chapter may require a lesser angle of heel if it considers that experience shows this to be necessary;
 - (ii) in the statical stability diagram, the net or residual area between the heeling arm curve and the righting arm curve up to the angle of heel of maximum difference between the ordinates of the two curves, or 40 degrees or the "angle of flooding" (ϕ_f), whichever is the least, shall in all conditions of loading be not less than 0.075 metre-radians; and
 - (iii) the initial metacentric height, after correction for the free surface effects of liquids in tanks, shall be not less than 0.30 metre.

- (c) Before loading bulk grain the master shall, if so required by the Contracting Government of the country of the port of loading, demonstrate the ability of the ship at all stages of any voyage to comply with the stability criteria required by paragraph (b) of this Regulation using the information approved and issued under Regulations 10 and 11 of this Chapter,
- (d) After loading, the master shall ensure that the ship shall be upright before proceeding to sea.

Regulation 5
Longitudinal Divisions and Saucers

- (a) In both "filled compartments" and "partly filled compartments", longitudinal divisions may be provided as a device either to reduce the adverse heeling effect of grain shift or to limit the depth of cargo used for securing the grain surface. Such divisions shall be fitted grain-tight and constructed in accordance with the provisions of Section I of Part C of this Chapter.
- (b) In a "filled compartment", a division, if fitted to reduce the adverse effects of grain shift, shall:
 - (i) in a tween-deck compartment extend from deck to deck; and
 - (ii) in a hold extend downwards from the underside of the deck or hatch covers as described in Section II of Part B of this Chapter.

Except in the case of linseed and other seeds having similar properties, a longitudinal division beneath a hatchway may be replaced by a saucer formed in the manner described in Section I of Part C of this Chapter.

- (c) In a "partly filled compartment", a division, if fitted, shall extend from one-eighth of the maximum breadth of the compartment above the level of the grain surface and to the same distance below the grain surface. When used to limit the depth of overstowing, the height of the centreline division shall be at least 0.6 metre above the level grain surface.
- (d) Furthermore, the adverse heeling effects of grain shift may be reduced by tightly stowing the wings and ends of a compartment with bagged grain or other suitable cargo adequately restrained from shifting.

Regulation 6
Securing

- (a) Unless account is taken of the adverse heeling effect due to grain shift in accordance with these Regulations, the surface of the bulk grain in any "partly filled compartment" shall be level and topped off with bagged grain tightly stowed and extending to a height of not

less than one-sixteenth of the maximum breadth of the free grain surface or 1.2 metres, whichever is the greater. Instead of bagged grain, other suitable cargo exerting at least the same pressure may be used.

- (b) The bagged grain or such other suitable cargo shall be supported in the manner described in Section II of Part C of this Chapter. Alternatively, the bulk grain surface may be secured by strapping or lashing as described in that Section.

Regulation 7
Feeders and Trunks

If feeders or trunks are fitted, proper account shall be taken of the effects thereof when calculating the heeling moments as described in Section III of Part B of this Chapter. The strength of the divisions forming the boundaries of such feeders shall conform with the provisions of Section I of Part C of this Chapter.

Regulation 8
Combination Arrangements

Lower holds and tween-deck spaces in way thereof may be loaded as one compartment provided that, in calculating transverse heeling moments, proper account is taken of the flow of grain into the lower spaces.

Regulation 9
Application of Parts B and C

An Administration or a Contracting Government on behalf of an Administration may authorize departure from the assumptions contained in Parts B and C of this Chapter in those cases where it considers this to be justified having regard to the provisions for loading or the structural arrangements, provided the stability criteria in paragraph (b) of Regulation 4 of this Chapter are met. Where such authorization is granted under this Regulation, particulars shall be included in the document of authorization or grain loading data.

Regulation 10
Authorization

- (a) A document of authorization shall be issued for every ship loaded in accordance with the Regulations of this Chapter either by the Administration or an organization recognized by it or by a Contracting Government on behalf of the Administration. It shall be accepted as evidence that the ship is capable of complying with the requirements of these Regulations.
- (b) The document shall accompany and refer to the grain loading stability booklet provided to enable the master to meet the requirements of paragraph (c) of Regulation 4 of this Chapter. This booklet shall meet the requirements of Regulation 11 of this Chapter.

- (c) Such a document, grain loading stability data and associated plans may be drawn up in the official language or languages of the issuing country. If the language used is neither English nor French, the text shall include a translation into one of these languages.
- (d) A copy of such a document, grain loading stability data and associated plans shall be placed on board in order that the master, if so required, shall produce them for the inspection of the Contracting Government of the country of the port of loading.
- (e) A ship without such a document of authorization shall not load grain until the master demonstrates to the satisfaction of the Administration or the Contracting Government of the port of loading on behalf of the Administration that the ship in its proposed loaded condition will comply with the requirements of these Regulations.

Regulation 11
Grain Loading Information

This information shall be sufficient to allow the master to determine in all reasonable loading conditions the heeling moments due to grain shift calculated in accordance with Part B of this Chapter. It shall include the following:

- (a) Information which shall be approved by the Administration or by a Contracting Government on behalf of the Administration:
 - (i) curves or tables of grain heeling moments for every compartment, filled or partly filled, or combination thereof, including the effects of temporary fittings;
 - (ii) tables of maximum permissible heeling moments or other information sufficient to allow the master to demonstrate compliance with the requirements of paragraph (c) of Regulation 4 of this Chapter;
 - (iii) details of the scantlings of any temporary fittings and where applicable the provisions necessary to meet the requirements of Section I(E) of Part C of this Chapter;
 - (iv) typical loaded service departure and arrival conditions and where necessary, intermediate worst service conditions;
 - (v) a worked example for the guidance of the master;
 - (vi) loading instructions in the form of notes summarizing the requirements of this Chapter.
- (b) Information which shall be acceptable to the Administration or to a Contracting Government on behalf of the Administration:
 - (i) ship's particulars;

- (ii) lightship displacement and the vertical distance from the intersection of the moulded base line and midship section to the centre of gravity (KG);
- (iii) table of free surface corrections;
- (iv) capacities and centres of gravity.

Regulation 12 Equivalent

Where an equivalent accepted by the Administration in accordance with Regulation 5 of Chapter I of this Convention is applied, particulars shall be included in the document of authorization or grain loading data.

Regulation 13 Exemptions for Certain Voyages

The Administration, or a Contracting Government on behalf of the Administration may, if it considers that the sheltered nature and conditions of the voyage are such as to render the application of any of the requirements of Regulations 3 to 12 of this Chapter unreasonable or unnecessary, exempt from those particular requirements individual ships or classes of ships.

PART B CALCULATION OF ASSUMED HEELING MOMENTS

SECTION I DESCRIPTION OF THE ASSUMED VOIDS AND METHOD OF CALCULATING INTACT STABILITY

(A) General

- (a) For the purpose of calculating the adverse heeling moment due to a shift of cargo surface in ships carrying bulk grain it shall be assumed that:
 - (i) In "filled compartments" which have been trimmed in accordance with Regulation 3 of this Chapter a void exists under all boundary surfaces having an inclination to the horizontal less than 30 degrees and that the void is parallel to the boundary surface having an average depth calculated according to the formula:

$$Vd = Vd_1 + 0.75(d - 600) \text{ mm}$$

Where:

Vd = Average void depth in mm;

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Vd_1 = Standard void depth from Table I below;

d = Actual girder depth in mm.

In no case shall Vd be assumed to be less than 100 mm.

TABLE I

<i>Distance from hatchend or hatchside to boundary of compartment (metres)</i>	<i>Standard void depth Vd_1 (mm)</i>
0.5	570
1.0	530
1.5	500
2.0	480
2.5	450
3.0	440
3.5	430
4.0	430
4.5	430
5.0	430
5.5	450
6.0	470
6.5	490
7.0	520
7.5	550
8.0	590

Notes on Table I:

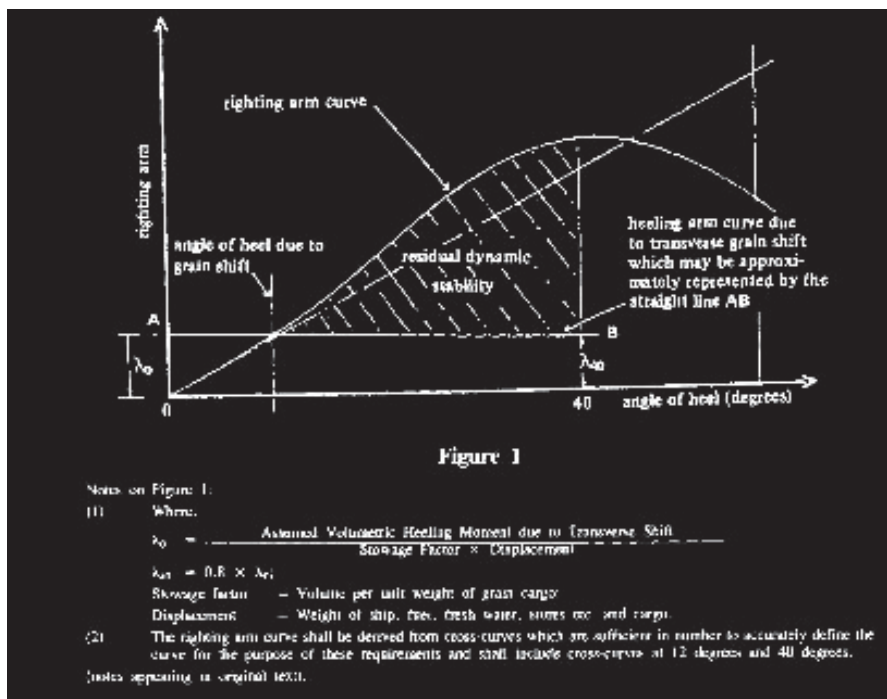
For distances greater than 8.0 metres the standard void depth Vd_1 shall be linearly extrapolated at 80 mm increase for each 1.0 metre increase in distance. Where there is a difference in depth between the hatchside girder or its continuation and the hatchend beam the greater depth shall be used except that:

- (1) when the hatchside girder or its continuation is shallower than the hatchend beam the voids abreast the hatchway may be calculated using the lesser depth; and
- (2) where the hatchend beam is shallower than the hatchside girder or its continuation the voids fore and aft of the hatchway inboard of the continuation of the hatchside girder may be calculated using the lesser depth;

- (3)
- (i) where there is a raised deck clear of a hatchway the average void depth measured from the underside of the raised deck shall be calculated using the standard void depth in association with a girder depth of the hatchend beam plus the height of the raised deck.
 - (ii) In "filled compartments" which are not trimmed in accordance with Regulation 3 of this Chapter and where the boundary surface has an inclination to the horizontal which is less than 30 degrees, the cargo surface has an inclination of 30 degrees to the horizontal after loading.
 - (iii) Within filled hatchways and in addition to any open void within the hatch cover there is a void of average depth of 150 mm measured down to the grain surface from the lowest part of the hatch cover or the top of the hatchside coaming, whichever is the lower.
- (b) The description of the pattern of grain surface behaviour to be assumed in "partly filled compartments" is shown in Section IV of this Part.
- (c) For the purpose of demonstrating compliance with the stability criteria in paragraph (b) of Regulation 4 of this Chapter (see Figure 1), the ship's stability calculations shall be normally based upon the assumption that the centre of gravity of cargo in a "filled compartment" is at the volumetric centre of the whole cargo space. In those cases where the Administration authorizes account to be taken of the effect of assumed underdeck voids on the vertical position of the centre of gravity of the cargo in "filled compartments" it will be necessary to compensate for the adverse effect of the vertical shift of grain surfaces by increasing the assumed heeling moment due to the transverse shift of grain as follows:

Total heeling moment = 1.06 x calculated transverse heeling moment.

In all cases the weight of cargo in a "filled compartment" shall be the volume of the whole cargo space divided by the stowage factor.



(d) In "partly filled compartments" the adverse effect of the vertical shift of grain surfaces shall be taken into account as follows:

Total heeling moment = 1.12 x calculated transverse heeling moment.

(e) Any other equally effective method may be adopted to make the compensation required in paragraphs (c) and (d) above.

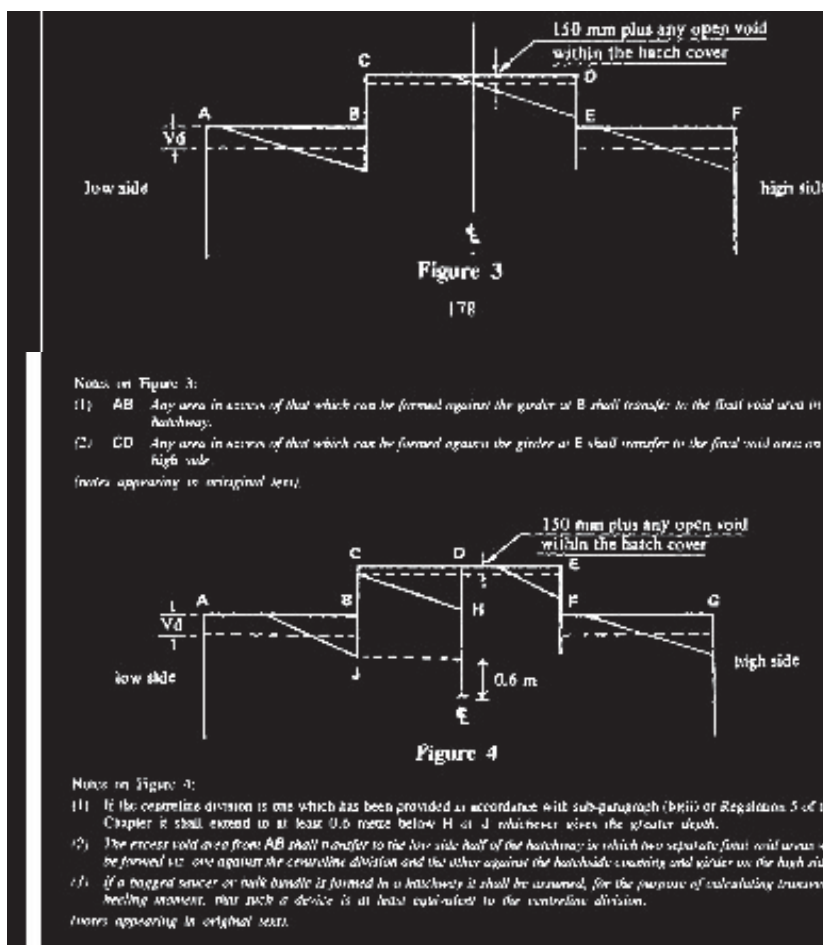
SECTION II
ASSUMED VOLUMETRIC HEELING MOMENT OF A FILLED COMPARTMENT

(A) General

(a) The pattern of grain surface movement relates to a transverse section across the portion of the compartment being considered and the resultant heeling moment should be multiplied by the length to obtain the total moment for that portion.

(b) *In and abreast hatchways:*

After the assumed shift of grain the final void pattern shall be as shown in the following Figure 3 or Figure 4.



(C) *Compartments Loaded in Combination*

The following paragraphs describe the pattern of void behaviour which shall be assumed when compartments are loaded in combination:

(a) *Without effective centreline divisions:*

(i) under the upper deck - as for the single deck arrangement described in Section II(B) of this Part.

(ii) Under the second deck - the area of void available for transfer from the low side, i.e. original void area less area against the hatchside girder, shall be assumed to transfer as follows:

one half to the upper deck hatchway and one quarter each to the high side under the upper and second deck.

(iii) Under the third and lower decks - the void areas available for transfer from the low side of each of these decks shall be assumed to transfer in equal quantities to all the voids under the decks on the high side and the void in the upper deck hatchway.

(b) With effective centreline divisions which extend into the upper deck hatchway:

(i) At all deck levels abreast the division the void areas available for transfer from the low side shall be assumed to transfer to the void under the low side half of the upper deck hatchway.

(ii) At the deck level immediately below the bottom of the division the void area available for transfer from the low side shall be assumed to transfer as follows: one half to the void under the low side half of the upper deck hatchway and the remainder in equal quantities to the voids under the decks on the high side.

(iii) At deck levels lower than those described in sub-paragraphs (i) and (ii) of this paragraph the void area available for transfer from the low side of each of those decks shall be assumed to transfer in equal quantities to the voids in each of the two halves of the upper deck hatchway on each side of the division and the voids under the decks on the high side.

(c) *With effective centreline divisions which do not extend into the upper deck hatchway:*

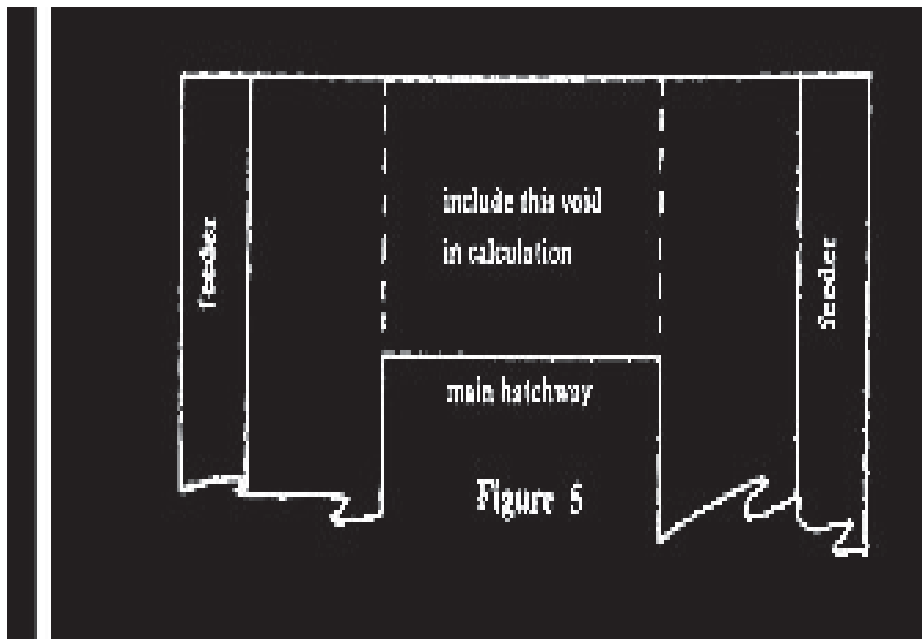
Since no horizontal transfer of voids may be assumed to take place at the same deck level as the division the void area available for transfer from the low side at this level shall be assumed to transfer above the division to voids on the high sides in accordance with the principles of paragraphs (a) and (b) above.

SECTION III
ASSUMED VOLUMETRIC HEELING MOMENT OF FEEDERS AND TRUNKS

(A) Suitably Placed Wing Feeders (See Figure 5)

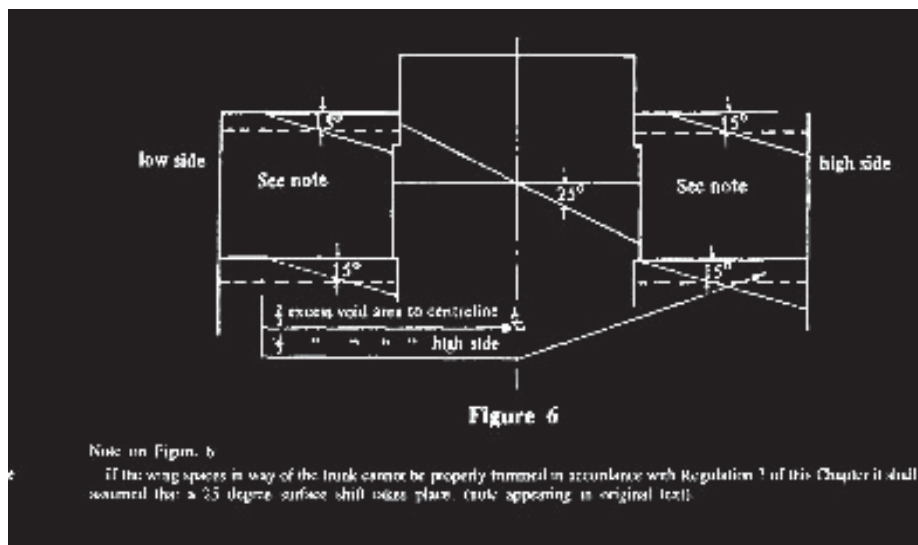
It may be assumed that under the influence of ship motion underdeck voids will be substantially filled by the flow of grain from a pair of longitudinal feeders provided that:

- (a) the feeders extend for the full length of the deck and that the perforations therein are adequately spaced;
- (b) the volume of each feeder is equal to the volume of the underdeck void outboard of the hatchside girder and its continuation.



(B) Trunks Situated Over Main Hatchways

After the assumed shift of grain the final void pattern shall be as shown in Figure 6.



SECTION IV ASSUMED VOLUMETRIC HEELING MOMENT OF PARTLY FILLED COMPARTMENTS

(A) General

When the free surface of the bulk grain has not been secured in accordance with Regulation 6 of this Chapter it shall be assumed that the grain surface after shifting shall be at 25 degrees to the horizontal.

(B) Discontinuous Longitudinal Divisions

In a compartment in which the longitudinal divisions are not continuous between the transverse boundaries, the length over which any such divisions are effective as devices to prevent full width shifts of grain surfaces shall be taken to be the actual length of the portion of the division under consideration less two-sevenths of the greater of the transverse distances between the division and its adjacent division or ship's side.

This correction does not apply in the lower compartments of any combination loading in which the upper compartment is either a "filled compartment" or a "partly filled compartment".

SECTION V
ALTERNATIVE LOADING ARRANGEMENTS FOR EXISTING SHIPS

(A) General

A ship loaded in accordance with either Sub-Section (B) or Sub-Section (C) below shall be considered to have intact stability characteristics at least equivalent to the requirements of paragraph (b) of Regulation 4 of this Chapter. Documents of authorization permitting such loadings shall be accepted under the provisions of paragraph (e) of Regulation 10 of this Chapter.

For the purpose of this Part, the term "Existing Ship" means a ship, the keel of which is laid before the date of coming into force of this Chapter.

(B) Stowage of Specially Suitable Ships

- (a) Notwithstanding anything contained in Part B of this Chapter, bulk grain may be carried without regard to the requirements specified therein in ships which are constructed with two or more vertical or sloping grain-tight longitudinal divisions suitably disposed to limit the effect of any transverse shift of grain under the following conditions:
 - (i) as many holds and compartments as possible shall be full and trimmed full;
 - (ii) for any specified arrangement of stowage the ship will not list to an angle greater than 5 degrees at any stage of the voyage where:
 - (1) in holds or compartments which have been trimmed full the grain surface settled 2 per cent by volume from the original surface and shifts to an angle of 12 degrees with that surface under all boundaries of these holds and compartments which have an inclination of less than 30 degrees to the horizontal;
 - (2) in "partly filled compartments or holds" free grain surfaces settle and shift as in sub-paragraph (ii)(1) of this paragraph or to such larger angle as may be deemed necessary by the Administration, or by a Contracting Government on behalf of the Administration, and grain surfaces if overstowed in accordance with Regulation 5 of this Chapter shift to an angle of 8 degrees with the original leveled surfaces. For the purpose of sub-paragraph (ii) of this

paragraph shifting boards, if fitted, will be considered to limit the transverse shift of the surface of the grain;

(iii) the master is provided with a grain loading plan covering the stowage arrangements to be adopted and a stability booklet, both approved by the Administration, or by a Contracting Government on behalf of the Administration, showing the stability conditions upon which the calculations given in subparagraph (ii) of this paragraph are based.

(b) The Administration, or a Contracting Government on behalf of the Administration, shall prescribe the precautions to be taken against shifting in all other conditions of loading of ships designed in accordance with paragraph (B)(a) of this Section which meet the requirements of subparagraphs (ii) and (iii) of that paragraph.

(C) Ships without Documents of Authorization

A ship not having on board documents of authorization issued in accordance with Regulations 4 and 10 of this Chapter may be permitted to load bulk grain under the requirements of Sub-Section (B) of this Section or provided that:

(a) All "filled compartments" shall be fitted with centreline divisions extending for the full length of such compartments which extend downwards from the underside of the deck or hatch covers to a distance below the deck line of at least one-eighth of the maximum breadth of the compartment or 2.4 metres, whichever is the greater except that saucers constructed in accordance with Section II of Part C may be accepted in lieu of a centreline division in and beneath a hatchway except in the case of linseed and other seeds having similar properties.

(b) All hatches to "filled compartments" shall be closed and covers secured in place.

(c) All free grain surfaces in "partly filled compartments" shall be trimmed level and secured in accordance with Section II of Part C.

(d) Throughout the voyage the metacentric height after correction for the free surface effects of liquids in tanks shall be 0.3 metre or that given by the following formula, whichever is the greater:

$$GM_R = \frac{L B V d (0.25B - 0.645\sqrt{V d B})}{SF \Delta 0.0875}$$

Where:

L = total combined length of all full compartments;

B = moulded breadth of vessel;

SF = stowage factor;

Vd = calculated average void depth as per paragraph (a)(i) of Section I(A) of this Part;
 Δ = displacement.

PART C
GRAIN FITTINGS AND SECURING

SECTION I
STRENGTH OF GRAIN FITTINGS

(A) General

(a) Timber

All timber used for grain fittings shall be of good sound quality and of a type and grade which has been proved to be satisfactory for this purpose. The actual finished dimensions of the timber shall be in accordance with the dimensions hereinafter specified in this Part. Plywood of an exterior type bonded with waterproof glue and fitted so that the direction of the grain in the face plies is perpendicular to the supporting uprights or binder may be used provided that its strength is equivalent to that of solid timber of the appropriate scantlings.

(b) Working stresses

When calculating the dimensions of divisions loaded on one side, using the Tables in paragraphs (a) and (b) of Sub-Section (C) of this Section, the following working stresses should be adopted:

- For divisions of steel, 2000 kg per square cm
- For divisions of wood, 160 kg per square cm

(c) Other materials

Materials other than wood or steel may be approved for such divisions provided that proper regard has been paid to their mechanical properties.

(d) Uprights

- (i) Unless means are provided to prevent the end of uprights being dislodged from their sockets, the depth of housing at each end of each upright shall be not less than 75 mm. If an upright is not secured at the top, the uppermost shore or stay shall be fitted as near thereto as is practicable.

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International Convention for the Safety of Life at Sea

(ii) The arrangements provided for inserting shifting boards by removing a part of the cross-section of an upright shall be such that the local level of stresses is not unduly high.

(iii) The maximum bending moment imposed upon an upright supporting a division loaded on one side shall normally be calculated assuming that the ends of the uprights are freely supported. However, if an Administration is satisfied that any degree of fixity assumed will be achieved in practice, account may be taken of any reduction in the maximum bending moment arising from any degree of fixity provided at the ends of the upright.

(e) *Composite section*

Where uprights, binders or any other strength members are formed by two separate sections, one fitted on each side of a division and inter-connected by through bolts at adequate spacing, the effective section modulus shall be taken as the sum of the two moduli of the separate sections.

(f) *Partial division*

Where divisions do not extend to the full depth of the hold such divisions and their uprights shall be supported or stayed so as to be as efficient as those which do extend to the full depth of the hold.

(B) *Divisions Loaded on Both Sides*

(a) *Shifting boards*

(i) Shifting boards shall have a thickness of not less than 50 mm and shall be fitted grain-tight and where necessary supported by uprights.

(ii) The maximum unsupported span for shifting boards of various thicknesses shall be as follows:

<i>Thickness</i>	<i>Maximum Unsupported Span</i>
50 mm	2.5
60 mm	3.0
70 mm	3.5
80 mm	4.0

If thicknesses greater than these are provided the maximum unsupported span will vary directly with the increase in thickness.

(iii) The ends of all shifting boards shall be securely housed with 75 mm minimum bearing length.

(b) *Other materials*

Divisions formed by using materials other than wood shall have a strength equivalent to the shifting boards required in paragraph (a) of this Sub-Section.

(c) *Uprights*

(i) Steel uprights used to support divisions loaded on both sides shall have a section modulus given by

$$W = a \times W_1$$

Where:

W = section modulus in cm³;

a = horizontal span between uprights in metres.

The section modulus per metre span W_1 shall be not less than that given by the formula:

$$W_1 = 14.8(h_1 - 1.2) \text{ cm}^3 \text{ per metre,}$$

Where:

h_1 is the vertical unsupported span in metres and shall be taken as the maximum value of the distance between any two adjacent stays or between the stay or either end of the upright. Where this distance is less than 2.4 metres the respective modulus shall be calculated as if the actual value was 2.4 metres.

(ii) The moduli of wood uprights shall be determined by multiplying by 12.5 the corresponding moduli for steel uprights. If other materials are used their moduli shall be at least that required for steel increased in proportion to the ratio of the permissible stresses for steel to that of the material used. In such cases attention shall be paid also to the relative rigidity of each upright to ensure that the deflection is not excessive.

(iii) The horizontal distance between uprights shall be such that the unsupported spans of the shifting boards do not exceed the maximum span specified in sub-paragraph (ii) of paragraph (a) of this Sub-Section.

(d) *Shores*

(i) Wood shores, when used, shall be in a single piece and shall be securely fixed at each end and heeled against the permanent structure of the ship except that they shall not bear directly against the side plating of the ship.

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International Convention for the Safety of Life at Sea

(ii) Subject to the provisions of sub-paragraphs (iii) and (iv) below, the minimum size of wood shores shall be as follows:

<i>Length of shore in metres</i>	<i>Rectangular section (mm)</i>	<i>Diameter of circular section (mm)</i>
Not exceeding 3m	150x100	140
Over 3 m but not exceeding 5 m	150x150	165
Over 5 m but not exceeding 6 m	150x150	180
Over 6 m but not exceeding 7 m	200x150	190
Over 7 m but not exceeding 8 m	200x150	200
Exceeding 8 m	200x150	215

Shores of 7 metres or more in length shall be securely bridged at approximately mid-length.

(iii) When the horizontal distance between the uprights differs significantly from 4 metres, the moments of inertia of the shores may be changed in direct proportion.

(iv) Where the angle of the shore to the horizontal exceeds 10 degrees the next larger shore to that required by sub-paragraph (ii) of this paragraph shall be fitted provided that in no case shall the angle between any shore and the horizontal exceed 45 degrees.

(e) *Stays*

Where stays are used to support divisions loaded on both sides, they shall be fitted horizontally or as near thereto as practicable, well secured at each end and formed of steel wire rope. The sizes of the wire rope shall be determined assuming that the divisions and upright which the stay supports are uniformly loaded at 500 kg/m². The working load so assumed in the stay shall not exceed one-third of its breaking load.

(C) *Divisions Loaded on One Side Only*

(a) *Longitudinal divisions*

The load in kg per metre length of the division shall be taken to be as follows:

TABLE I¹ B (m)

<i>h (m)</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>10</i>
1.5	850	900	1010	1225	1500	1770	2060	2645
2.0	1390	1505	1710	1985	2295	2605	2930	3590

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International Convention for the Safety of Life at Sea

2.5	1985	2160	2430	2740	3090	3435	3800	4535
3.0	2615	2845	3150	3500	3885	4270	4670	5480
3.5	3245	3525	3870	4255	4680	5100	5540	6425
4.0	3890	4210	4590	5015	5475	5935	6410	7370
4.5	4535	4890	5310	5770	6270	6765	7280	8315
5.0	5185	5570	6030	6530	7065	7600	8150	9260
6.0	6475	6935	7470	8045	8655	9265	9890	11150
7.0	7765	8300	8910	9560	10245	10930	11630	13040
8.0	9055	9665	10350	11075	11835	12595	13370	14930
9.0	10345	11030	11790	12590	13425	14260	15110	16820
10.0	11635	12395	13230	14105	15015	15925	16850	18710

h = height of grain in metres from the bottom of the division²

B = transverse extent of the bulk grain in metres

For other values of h or B the loads shall be determined by linear interpolation or extrapolation as necessary.

¹ For the purpose of converting the above loads into British units (ton/ft) 1 kg per metre length shall be taken to be equivalent to 0.0003 ton per foot length.

² Where the distance from a division to a feeder or hatchway is 1 metre or less, the height - h - shall be taken to the level of the grain within that hatchway or feeder. In all other cases the height shall be taken to the overhead deck in way of the division.

(b) *Transverse divisions*

The load in kg per metre length of the division shall be taken to be as follows:

TABLE II¹ L (m)

<i>h</i> (m)	2	3	4	5	6	7	8	10	12	14	16
1.5	670	690	730	780	835	890	935	1000	1040	1050	1050
2.0	1040	1100	1170	1245	1325	1400	1470	1575	1640	1660	1660
2.5	1460	1565	1675	1780	1880	1980	2075	2210	2285	2305	2305
3.0	1925	2065	2205	2340	2470	2590	2695	2845	2925	2950	2950
3.5	2425	2605	2770	2930	3075	3205	3320	3480	3570	3595	3595
4.0	2950	3160	3355	3535	3690	3830	3950	4120	4210	4235	4240
4.5	3495	3725	3940	4130	4295	4440	4565	4750	4850	4880	4885
5.0	4050	4305	4535	4735	4910	5060	5190	5385	5490	5525	5530

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International Convention for the Safety of Life at Sea

6.0	5175	5465	5720	5945	6135	6300	6445	6655	6775	6815	6825
7.0	6300	6620	6905	7150	7365	7445	7700	7930	8055	8105	8115
8.0	7425	7780	8090	8360	8590	8685	8950	9200	9340	9395	9410
9.0	8550	8935	9275	9565	9820	9930	10205	10475	10620	10685	10705
10.0	9680	10095	10460	10770	11045	11270	11460	11745	11905	11975	11997

h = height of grain in metres from the bottom of the division²

L = longitudinal extent of the bulk grain in metres

For other values of h or L the loads shall be determined by linear interpolation or extrapolation as necessary.

¹ For the purpose of converting the above loads in British units (ton/ft) 1 kg per metre length shall be taken to be equivalent to 0.0003 ton per foot length.

² Where the distance from a division to a feeder or hatchway is 1 metre or less, the height - h - shall be taken to the level of the grain within that hatchway or feeder. In all other cases the height shall be taken to the overhead deck in way of the division.

(c) Vertical distribution of the loads

The total load per unit length of divisions shown in the Tables I and II above may, if considered necessary, be assumed to have a trapezoidal distribution with height. In such cases, the reaction loads at the upper and lower ends of a vertical member or upright are not equal. The reaction loads at the upper end expressed as percentages of the total load supported by the vertical member or upright shall be taken to be those shown in Tables III and IV below.

TABLE III LONGITUDINAL DIVISIONS LOADED ON ONE SIDE ONLY

Bearing reaction at the upper end of upright as percentage of load (Table I) B (m)

<i>h (m)</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>10</i>
1.5	43.3	45.1	45.9	46.2	46.2	46.2	46.2	46.2
2	44.5	46.7	47.6	47.8	47.8	47.8	47.8	47.8
2.5	45.4	47.6	48.6	48.8	48.8	48.8	48.8	48.8
3	46.0	48.3	49.2	49.4	49.4	49.4	49.4	49.4
3.5	46.5	48.8	49.7	49.8	49.8	49.8	49.8	49.8
4	47.0	49.1	49.9	50.1	50.1	50.1	50.1	50.1
4.5	47.4	49.4	50.1	50.2	50.2	50.2	50.2	50.2

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

5	47.7	49.4	50.1	50.2	50.2	50.2	50.2	50.2
6	47.9	49.5	50.1	50.2	50.2	50.2	50.2	50.2
7	47.9	49.5	50.1	50.2	50.2	50.2	50.2	50.2
8	47.9	49.5	50.1	50.2	50.2	50.2	50.2	50.2
9	47.9	49.5	50.1	50.2	50.2	50.2	50.2	50.2
10	47.9	49.5	50.1	50.2	50.2	50.2	50.2	50.2

B = transverse extent of the bulk grain in metres

For other values of h or B the reaction loads shall be determined by linear interpolation or extrapolation as necessary.

TABLE IV TRANSVERSE DIVISIONS LOADED ON ONE SIDE ONLY

Beating reaction at the upper end of upright as percentage of load (Table II) L(m)

h (m)	2	3	4	5	6	7	8	10	12	14	16
1.5	37.3	38.7	39.7	40.6	41.4	42.1	42.6	43.6	44.3	44.8	45.0
2	39.6	40.6	41.4	42.1	42.7	43.1	43.6	44.3	44.7	45.0	45.2
2.5	41.0	41.8	42.5	43.0	43.5	43.8	44.2	44.7	45.0	45.2	45.2
3	42.1	42.8	43.3	43.8	44.2	44.5	44.7	45.0	45.2	45.3	45.3
3.5	42.9	43.5	43.9	44.3	44.6	44.8	45.0	45.2	45.3	45.3	45.3
4	43.5	44.0	44.4	44.7	44.9	45.0	45.2	45.4	45.4	45.4	45.4
5	43.9	44.3	44.6	44.8	45.0	45.2	45.3	45.5	45.5	45.5	45.5
6	44.2	44.5	44.8	45.0	45.2	45.3	45.4	45.6	45.6	45.6	45.6
7	44.3	44.6	44.9	45.1	45.3	45.4	45.5	45.6	45.6	45.6	45.6
8	44.3	44.6	44.9	45.1	45.3	45.4	45.5	45.6	45.6	45.6	45.6
9	44.3	44.6	44.9	45.1	45.3	45.4	45.5	45.6	45.6	45.6	45.6
10	44.3	44.6	44.9	45.1	45.3	45.4	45.5	45.6	45.6	45.6	45.6

L = longitudinal extent of the bulk grain in metres

For other values of h or L the reaction loads shall be determined by linear interpolation or extrapolation as necessary.

The strength of the end connexions of such vertical members or uprights may be calculated on the basis of the maximum load likely to be imposed at either end. These loads are as follows:

- Longitudinal Divisions

- Maximum load at the top 50% of the appropriate total load from Table I
- Maximum load at the bottom 55% of the appropriate total load from Table I

- Transverse Divisions
 - Maximum load at the top 45% of the appropriate total load from Table II
 - Maximum load at the bottom 60% of the appropriate total load from Table II

The thickness of horizontal wooden boards may also be determined having regard to the vertical distribution of the loading represented by Tables III and IV above and in such cases

$$t = 10a \sqrt{\frac{p \cdot k}{h \cdot 213.3}}$$

Where:

t = thickness of board in mm;

a = horizontal span of the board i.e. distance between uprights in metres;

h = head of grain to the bottom of the division in metres;

p = total load per unit length derived from Table I or II in kilogrammes;

k = factor dependent upon vertical distribution of the loading.

When the vertical distribution of the loading is assumed to be uniform, i.e. rectangular, k shall be taken as equal to 1.0. For a trapezoidal distribution

$$k = 1.0 + 0.06 (50 - R)$$

Where:

R is the upper end bearing reaction taken from Table III or IV.

(d) *Stays or shores*

The sizes of stays and shores shall be so determined that the loads derived from Tables I and II in the preceding paragraphs (a) and (b) shall not exceed one-third of the breaking loads.

(D) *Saucers*

When a saucer is used to reduce the heeling moments in a "filled compartment", its depth, measured from the bottom of the saucer to the deck line, shall be as follows:

- For ships with a moulded breadth of up to 9.1 metres, not less than 1.2 metres.
- For ships with a moulded breadth of 18.3 metres or more, not less than 1.8 metres.
- For ships with a moulded breadth between 9.1 metres and 18.3 metres, the minimum depth of the saucer shall be calculated by interpolation.

The top (mouth) of the saucer shall be formed by the underdeck structure in the way of the hatchway, i.e. hatchside girders or coamings and hatchend beams. The saucer and hatchway

above shall be completely filled with bagged grain or other suitable cargo laid down on a separation cloth or its equivalent and stowed tightly against adjacent structures and the portable hatchway beams if the latter are in place.

(E) Bundling of Bulk

As an alternative to filling the saucer with bagged grain or other suitable cargo a bundle of bulk grain may be used provided that:

- (a) The saucer is lined with a material acceptable to the Administration having a tensile strength of not less than 274 kg per 5 cm strip and which is provided with suitable means for securing at the top.
- (b) As an alternative to paragraph (a) above a material acceptable to the Administration having a tensile strength of not less than 137 kg per 5 cm strip may be used if the saucer is constructed as follows:
 - Athwartship lashings acceptable to the Administration shall be placed inside the saucer formed in the bulk grain at intervals of not more than 2.4 metres. These lashing shall be of sufficient length to permit being drawn up tight and secured at the top of the saucer.
 - Dunnage not less than 25 mm in thickness or other suitable material of equal strength and between 150 to 300 mm in width shall be placed fore and aft over these lashings to prevent the cutting or chafing of the material which shall be placed thereon to line the saucer.
- (c) The saucer shall be filled with bulk grain and secured at the top except that when using material approved under paragraph (b) above further dunnage shall be laid on top after lapping the material before the saucer is secured by setting up the lashings.
- (d) If more than one sheet of material is used to line the saucer they shall be joined at the bottom either by sewing or a double lap,
- (e) The top of the saucer shall be coincidental with the bottom of the beams when these are in place and suitable general cargo or bulk grain may be placed between the beams on top of the saucer.

(F) Securing Hatch Covers of Filled Compartments

If there is no bulk grain or other cargo above a "filled compartment" the hatch covers shall be secured in an approved manner having regard to the weight and permanent arrangements provided for securing such covers.

The documents of authorization issued under Regulation 10 of this Chapter shall include reference to the manner of securing considered necessary by the Administration issuing such documents.

**SECTION II
SECURING OF PARTLY FILLED COMPARTMENTS**

(A) Strapping or Lashing

- (a) When, in order to eliminate heeling moments in "partly filled compartments", strapping or lashing is utilized, the securing shall be accomplished as follows:
- (i) The grain shall be trimmed and levelled to the extent that it is very slightly crowned and covered with burlap separation cloths, tarpaulins or the equivalent.
 - (ii) The separation cloths and/or tarpaulins shall overlap at least 1.8 metres.
 - (iii) Two solid floors of rough 25 mm by 150 mm to 300 mm lumber shall be laid with the top floor running longitudinally and nailed to an athwartships bottom floor. Alternatively, one solid floor of 50 mm lumber, running longitudinally and nailed over the top of a 50 mm bottom bearer not less than 150 mm wide, may be used. The bottom bearers shall extend the full breadth of the compartment and shall be spaced not more than 2.4 metres apart. Arrangements utilizing other materials and deemed by an Administration to be equivalent to the foregoing may be accepted.
 - (iv) Steel wire rope (19 mm diameter or equivalent), doubled steel strapping (50 mm x 1.3 mm and having a breaking load of at least 5000 kg), or chain of equivalent strength, each of which shall be set tight by means of a 32 mm turnbuckle, may be used for lashings. A winch tightener, used in conjunction with a locking arm, may be substituted for the 32 mm turnbuckle when steel strapping is used, provided suitable wrenches are available for setting up as necessary. When steel strapping is used, not less than three crimp seals shall be used for securing the ends. When wire is used, not less than four clips shall be used for forming eyes in the lashings.
 - (v) Prior to the completion of loading the lashing shall be positively attached to the framing at a point approximately 450 mm below the anticipated final grain surface by means of either a 25 mm shackle or beam clamp of equivalent strength.
 - (vi) The lashings shall be spaced not more than 2.4 metres apart and each shall be supported by a bearer nailed over the top of the fore and aft floor. This bearer shall consist of not less than 25 mm by 150 mm lumber or its equivalent and shall extend the full breadth of the compartment.

(vii) During the voyage the strapping shall be regularly inspected and set up where necessary.

(B) Overstowing Arrangements

Where bagged grain or other suitable cargo is utilized for the purpose of securing "partly filled compartments", the free grain surface shall be covered with a separation cloth or equivalent or by a suitable platform. Such platforms shall consist of bearers spaced not more than 1.2 metres apart and 25 mm boards laid thereon spaced not more than 100 mm apart. Platforms may be constructed of other materials provided they are deemed by an Administration to be equivalent.

(C) Bagged Grain

Bagged grain shall be carried in sound bags which shall be well filled and securely closed.

**CHAPTER VII
CARRIAGE OF DANGEROUS GOODS**

**Regulation 1
Application**

- (a) Unless expressly provided otherwise, this Chapter applies to the carriage of dangerous goods in all ships to which the present Regulations apply.
- (b) The provisions of this Chapter do not apply to ship's stores and equipment or to particular cargoes carried in ships specially built or converted as a whole for that purpose, such as tankers.
- (c) The carriage of dangerous goods is prohibited except in accordance with the provisions of this Chapter.
- (d) To supplement the provisions of this Chapter each Contracting Government shall issue, or cause to be issued, detailed instructions on the safe packing and stowage of specific dangerous goods or categories of dangerous goods which shall include any precautions necessary in their relation to other cargo.

**Regulation 2
Classification**

Dangerous goods shall be divided into the following classes:

- Class 1 - Explosives.

- Class 2 - Gases: compressed, liquefied or dissolved under pressure.
- Class 3 - Inflammable liquids.
- Class 4.1 - Inflammable solids.
- Class 4.2 - Inflammable solids, or substances, liable to spontaneous combustion.
- Class 4.3 - Inflammable solids, or substances, which in contact with water emit inflammable gases.
- Class 5.1 - Oxidizing substances.
- Class 5.2 - Organic peroxides.
- Class 6.1 - Poisonous (toxic) substances.
- Class 6.2 - Infectious substances.
- Class 7 - Radioactive substances.
- Class 8 - Corrosives.
- Class 9 - Miscellaneous dangerous substances, that is any other substance which experience has shown, or may show, to be of such a dangerous character that the provisions of this Chapter should apply to it.

Regulation 3
Packing

- (a) The packing of dangerous goods shall be:
 - (i) well made and in good condition;
 - (ii) of such a character that any interior surface with which the contents may come in contact is not dangerously affected by the substance being conveyed; and
 - (iii) capable of withstanding the ordinary risks of handling and carriage by sea.
- (b) Where the use of absorbent or cushioning material is customary in the packing of liquids in receptacles that material shall be:
 - (i) capable of minimizing the dangers to which the liquid may give rise;
 - (ii) so disposed as to prevent movement and ensure that the receptacle remains surrounded; and
 - (iii) where reasonably possible of sufficient quantity to absorb the liquid in the event of breakage of the receptacle.
- (c) Receptacles containing dangerous liquids shall have ullage at the filling temperature sufficient to allow for the highest temperature during the course of normal carriage.
- (d) Cylinders or receptacles for gases under pressure shall be adequately constructed, tested, maintained and correctly filled.

- (e) Empty receptacles which have been used previously for the carriage of dangerous goods shall themselves be treated as dangerous goods unless they have been cleaned and dried or, when the nature of the former contents permit with safety, have been closed securely.

Regulation 4
Marking and Labelling

Each receptacle containing dangerous goods shall be marked with the correct technical name (trade names shall not be used) and identified with a distinctive label or stencil of the label so as to make clear the dangerous character. Each receptacle shall be so labelled except receptacles containing chemicals packed in limited quantities and large shipments which can be stowed, handled and identified as a unit.

Regulation 5
Documents

- (a) In all documents relating to the carriage of dangerous goods by sea where the goods are named the correct technical name of the goods shall be used (trade names shall not be used) and the correct description given in accordance with the classification set out in Regulation 2 of this Chapter.
- (b) The shipping documents prepared by the shipper shall include, or be accompanied by, a certificate or declaration that the shipment offered for carriage is properly packed, marked and labelled and in proper condition for carriage.
- (c) Each ship carrying dangerous goods shall have a special list or manifest setting forth, in accordance with Regulation 2 of this Chapter, the dangerous goods on board and the location thereof. A detailed stowage plan which identifies by class and sets out the location of all dangerous goods on board may be used in place of such special list or manifest.

Regulation 6
Stowage Requirements

- (a) Dangerous goods shall be stowed safely and appropriately according to the nature of the goods. Incompatible goods shall be segregated from one another.
- (b) Explosives (except ammunition) which present a serious risk shall be stowed in a magazine which shall be kept securely closed while at sea. Such explosives shall be segregated from detonators. Electrical apparatus and cables in any compartment in which explosives are carried shall be designed and used so as to minimize the risk of fire or explosion.
- (c) Goods which give off dangerous vapours shall be stowed in a well ventilated space or on deck.
-

- (d) In ships carrying inflammable liquids or gases special precautions shall be taken where necessary against fire or explosion.
- (e) Substances which are liable to spontaneous heating or combustion shall not be carried unless adequate precautions have been taken to prevent the outbreak of fire.

Regulation 7
Explosives in Passenger Ships

- (a) In passenger ships the following explosives only may be carried:
 - (i) safety cartridges and safety fuses;
 - (ii) small quantities of explosives not exceeding 9 kilogrammes (20 pounds) total net weight;
 - (iii) distress signals for use in ships or aircraft, if the total weight of such signals does not exceed 1,016 kilogrammes (2,240 pounds);
 - (iv) except in ships carrying unberthed passengers, fireworks which are unlikely to explode violently.
- (b) Notwithstanding the provisions of paragraph (a) of this Regulation additional quantities or types of explosives may be carried in passenger ships in which there are special safety measures approved by the Administration.

CHAPTER VIII
NUCLEAR SHIPS

Regulation 1
Application

This Chapter applies to all nuclear ships except ships of war.

Regulation 2
Application of Other Chapters

The Regulations contained in the other Chapters of the present Convention apply to nuclear ships except as modified by this Chapter.

**Regulation 3
Exemptions**

A nuclear ship shall not, in any circumstances, be exempted from compliance with any Regulations of this Convention.

**Regulation 4
Approval of reactor installation**

The design, construction and standards of inspection and assembly of the reactor installation shall be subject to the approval and satisfaction of the Administration and shall take account of the limitations which will be imposed on surveys by the presence of radiation.

**Regulation 5
Suitability of Reactor Installation for Service on Board Ship**

The reactor installation shall be designed having regard to the special conditions of service on board ship both in normal and exceptional circumstances of navigation.

**Regulation 6
Radiation Safety**

The Administration shall take measures to ensure that there are no unreasonable radiation or other nuclear hazards, at sea or in port, to the crew, passengers or public, or to the waterways or food or water resources.

**Regulation 7
Safety Assessment**

- (a) A Safety Assessment shall be prepared to permit evaluation of the nuclear power plant and safety of the ship to ensure that there are no unreasonable radiation or other hazards, at sea or in port, to the crew, passengers or public, or to the waterways or food or water resources. The Administration, when satisfied, shall approve such Safety Assessment which shall always be kept up-to-date.
- (b) The Safety Assessment shall be made available sufficiently in advance to the Contracting Governments of the countries which a nuclear ship intends to visit so that they may evaluate the safety of the ship.

**Regulation 8
Operating Manual**

A fully detailed Operating Manual shall be prepared for the information and guidance of the operating personnel in their duties on all matters relating to the operation of the nuclear

power plant and having an important bearing on safety. The Administration, when satisfied, shall approve such Operating Manual and a copy shall be kept on board the ship. The Operating Manual shall always be kept up-to-date.

Regulation 9
Surveys

Survey of nuclear ships shall include the applicable requirements of Regulation 7 of Chapter I, or of Regulations 8, 9 and 10 of Chapter I, except in so far as surveys are limited by the presence of radiation. In addition, the surveys shall include any special requirements of the Safety Assessment. They shall in all cases, notwithstanding the provisions of Regulations 8 and 10 of Chapter I, be carried out not less frequently than once a year.

Regulation 10
Certificates

- (a) The provisions of paragraph (a) of Regulation 12 of Chapter I and of Regulation 14 of Chapter I shall not apply to nuclear ships.
- (b) A Certificate, called a Nuclear Passenger Ship Safety Certificate shall be issued after inspection and survey to a nuclear passenger ship which complies with the requirements of Chapters II-1, II-2, III, IV and VIII, and any other relevant requirements of the present Regulations.
- (c) A Certificate, called a Nuclear Cargo Ship Safety Certificate shall be issued after inspection and survey to a nuclear cargo ship which satisfies the requirements for cargo ships on survey set out in Regulation 10 of Chapter I, and complies with the requirements of Chapters II-1, II-2, III, IV and VIII and any other relevant requirements of the present Regulations.
- (d) Nuclear Passenger Ship Safety Certificates and Nuclear Cargo Ship Safety Certificates shall state: "That the ship, being a nuclear ship, complied with all requirements of Chapter VIII of the Convention and conformed to the Safety Assessment approved for the ship".
- (e) Nuclear Passenger Ship Safety Certificates and Nuclear Cargo Ship Safety Certificates shall be valid for a period of not more than 12 months.
- (f) Nuclear Passenger Ship Safety Certificates and Nuclear Cargo Ship Safety Certificates shall be issued either by the Administration or by any person or organization duly authorized by it. In every case, that Administration assumes full responsibility for the certificate.

**Regulation 11
Special Control**

In addition to the control established by Regulation 19 of Chapter I, nuclear ships shall be subject to special control before entering the ports and in the ports of Contracting Governments, directed towards verifying that there is on board a valid Nuclear Ship Safety Certificate and that there are no unreasonable radiation or other hazards at sea or in port, to the crew, passengers or public, or to the waterways or food or water resources.

**Regulation 12
Casualties**

In the event of any accident likely to lead to an environmental hazard the master of a nuclear ship shall immediately inform the Administration. The master shall also immediately inform the competent Governmental authority of the country in whose waters the ship may be, or whose waters the ship approaches in a damaged condition.

APPENDIX

FORM OF SAFETY CERTIFICATE FOR PASSENGER SHIPS

PASSENGER SHIP SAFETY CERTIFICATE

(Official Seal) (Country)
for 'an'/'a short' international voyage.

Issued under the provisions of the International Convention for the Safety of Life at Sea, 1974

<i>Name of ship</i>	<i>Distinctive number or letters</i>	<i>Port of registry</i>	<i>Gross tonnage</i>	<i>Particulars of voyages, if any, sanctioned under Regulation 27(c)(vii) of Chapter III</i>	<i>Date on which keel was laid (see NOTE below)</i>

The _____
I, the undersigned

(Name) Government certifies
(Name) certify

I. That the above-mentioned ship has been duly surveyed in accordance with the provisions of the Convention referred to above.

II. That the survey showed that the ship complied with the requirements of the Regulations annexed to the said Convention as regards:

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

-
- (1) the structure, main and auxiliary boilers and other pressure vessels and machinery;
 - (2) the watertight subdivision arrangements and details;
 - (3) the following subdivision load lines:

<i>Subdivision load lines assigned and marked on the ship's side at amidships (Regulation 11 of Chapter II-1)</i>	<i>Freeboard</i>	<i>To apply when the spaces in which passengers are carried include the following alternative spaces</i>
C1
C2
C3

III. That the life-saving appliances provide for a total number of persons and no more, viz.:

- lifeboats (including motor lifeboats) capable of accommodating persons, and motor lifeboats fitted with radiotelegraph installation and searchlight (included in the total lifeboats shown above) and motor lifeboats fitted with searchlight only (also included in the total lifeboats shown above), requiring certificated lifeboatmen;
- liferafts, for which approved launching devices are required, capable of accommodating persons; and
- liferafts, for which approved launching devices are not required, capable of accommodating persons;
- buoyant apparatus capable of supporting persons;
- lifebuoys;
- life-jackets.

IV. That the lifeboats and liferafts were equipped in accordance with the provisions of the Regulations.

V. That the ship was provided with a line-throwing appliance and portable radio apparatus for survival craft in accordance with the provisions of the Regulations.

VI. That the ship complied with the requirements of the Regulations as regards radiotelegraph installations, viz.:

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

	<i>Requirements of Regulations</i>	<i>Actual provision</i>
Hours of listening by operator
Number of operators
Whether auto alarm fitted
Whether main installation fitted
Whether reserve installation fitted
Whether main and reserve transmitters electrically separated or combined
Whether direction-finder fitted
Whether radio equipment for homing on the radiotelephone distress frequency fitted
Whether radar fitted
Number of passengers for which certificated

VII. That the functioning of the radiotelegraph installations for motor lifeboats and/or the portable radio apparatus for survival craft, if provided, complied with the provisions of the Regulations.

VIII. That the ship complied with the requirements of the Regulations as regards fire-detecting and fire-extinguishing appliances, radar, echo-sounding device and gyro-compass and was provided with navigation lights and shapes, pilot ladder, and means of making sound signals, and distress signals in accordance with the provisions of the Regulations and also the International Regulations for Preventing Collisions at Sea in force.

IX. That in all other respects the ship complied with the requirements of the Regulations, so far as these requirements apply thereto.

This certificate is issued under the authority of the Government. It will remain in force until

Issued at the day of 19.....

Here follows the seal or signature of the authority entitled to issue the certificate.

(Seal)

If signed, the following paragraph is to be added:

The undersigned declares that he is duly authorized by the said Government to issue this certificate.

(Signature)

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

NOTE: It will be sufficient to indicate the year in which the keel was laid or when the ship was at a similar stage of construction except for 1952, 1965 and the year of the coming into force of the International Convention for the Safety of Life at Sea, 1974, in which cases the actual date should be given.

In the case of a ship which is converted as provided in Regulation 1(b)(i) of Chapter II-1 or Regulations 1(a)(i) of Chapter II-2 of the Convention, the date on which the work of conversion was begun should be given.

FORM OF SAFETY CONSTRUCTION CERTIFICATE FOR CARGO SHIPS

CARGO SHIP SAFETY CONSTRUCTION CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the International Convention for the Safety of Life at Sea, 1974

Name of ship	Distinctive number or letters	Port of registry	Gross tonnage	Date on which keel was laid (see NOTE below)

The _____
I, the undersigned

(Name) Government certifies
(Name) certify

That the above-mentioned ship has been duly surveyed in accordance with the provisions of Regulation 10 of Chapter I of the Convention referred to above, and that the survey showed that the condition of the hull, machinery and equipment, as defined in the above Regulation, was in all respects satisfactory and that the ship complied with the applicable requirements of Chapter II-1 and Chapter II-2 (other than that relating to fire-extinguishing appliances and fire control plans).

This certificate is issued under the authority of the Government. It will remain in force until Issued at the day of 19

Here follows the seal or signature of the authority entitled to issue the certificate. (Seal)

If signed, the following paragraph is to be added:

The undersigned declares that he is duly authorized by the said Government to issue this certificate.

(Signature)

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

NOTE: It will be sufficient to indicate the year in which the keel was laid or when the ship was at a similar stage of construction except for 1952, 1965 and the year of the coming into force of the International Convention for the Safety of Life at Sea, 1974, in which cases the actual date should be given.

FORM OF SAFETY EQUIPMENT CERTIFICATE FOR CARGO SHIPS

CARGO SHIP SAFETY EQUIPMENT CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the International Convention for the Safety of Life at Sea, 1974

<i>Name of ship</i>	<i>Distinctive number or letters</i>	<i>Port of registry</i>	<i>Gross tonnage</i>	<i>Date on which keel was laid (see NOTE below)</i>

The
I, the undersigned

(Name) Government certifies
(Name) certify

I. That the above-mentioned ship has been duly inspected in accordance with the provisions of the Convention referred to above.

II. That the inspection showed that the life-saving appliances provided for a total number of persons and no more viz.:

- lifeboats on port side capable of accommodating persons;
- lifeboats on starboard side capable of accommodating persons;
- motor lifeboats (included in the total lifeboats shown above), including motor lifeboats fitted with radiotelegraph installation and searchlight, and motor lifeboats fitted with searchlight only;
- liferafts, for which approved launching devices are required, capable of accommodating persons; and
- liferafts, for which approved launching devices are not required, capable of accommodating persons;
- lifebuoys;
- life-jackets.

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

III. That the lifeboats and liferafts were equipped in accordance with the provisions of the Regulations annexed to the Convention.

IV. That the ship was provided with a line-throwing apparatus and portable radio apparatus for survival craft in accordance with the provisions of the Regulations.

V. That the inspection showed that the ship complied with the requirements of the said Convention as regards fire-extinguishing appliances and fire control plans, echo-sounding device and gyro-compass and was provided with navigation lights and shapes, pilot ladder, and means of making sound signals and distress signals, in accordance with the provisions of the Regulations and the International Regulations for Preventing Collisions at Sea in force.

VI. That in all other respects the ship complied with the requirements of the Regulations so far as these requirements apply thereto.

This certificate is issued under the authority of the Government. It will remain in force until

Issued at the day of 19.....

Here follows the seal or signature of the authority entitled to issue the certificate.

(Seal)

If signed, the following paragraph is to be added:

The undersigned declares that he is duly authorized by the said Government to issue this certificate.

(Signature)

NOTE: It will be sufficient to indicate the year in which the keel was laid or when the ship was at a similar stage of construction except for 1952, 1965 and the year of the coming into force of the International Convention for the Safety of Life at Sea, 1974, in which cases the actual date should be given.

FORM OF SAFETY RADIOTELEGRAPHY CERTIFICATE FOR CARGO SHIPS

CARGO SHIP SAFETY RADIOTELEGRAPHY CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the International Convention for the Safety of Life at Sea, 1974

<i>Name of ship</i>	<i>Distinctive number or letters</i>	<i>Port of registry</i>	<i>Gross tonnage</i>	<i>Date on which keel was laid (see NOTE below)</i>

The _____
I, the undersigned

(Name) Government certifies
(Name) certify

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

I. That the above-mentioned ship complies with the provisions of the Regulations annexed to the Convention referred to above as regards radiotelegraphy and radar:

	<i>Requirements of Regulations</i>	<i>Actual provision</i>
Hours of listening by operator
Number of operators
Whether auto alarm fitted
Whether main installation fitted
Whether reserve installation fitted
Whether main and reserve transmitters electrically separated or combined
Whether direction-finder fitted
Whether radio equipment for homing on the radiotelephone distress frequency fitted
Whether radar fitted

II. That the functioning of the radiotelegraphy installation for motor lifeboats and/or the portable radio apparatus for survival craft, if provided, complies with the provisions of the said Regulations.

This certificate is issued under the authority of the Government. It will remain in force until

Issued at the day of 19.....

Here follows the seal or signature of the authority entitled to issue the certificate.

(Seal)

If signed, the following paragraph is to be added:

The undersigned declares that he is duly authorized by the said Government to issue this certificate.

(Signature)

NOTE: It will be sufficient to indicate the year in which the keel was laid or when the ship was at a similar stage of construction except for 1952, 1965 and the year of the coming into force of the International Convention for the Safety of Life at Sea, 1974, in which cases the actual date should be given.

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

FORM OF SAFETY RADIOTELEPHONY CERTIFICATE FOR CARGO SHIPS

CARGO SHIP SAFETY RADIOTELEPHONY CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the International Convention for the Safety of Life at Sea, 1974

<i>Name of ship</i>	<i>Distinctive number or letters</i>	<i>Port of registry</i>	<i>Gross tonnage</i>	<i>Date on which keel was laid (see NOTE below)</i>

The _____

(Name) Government certifies

I, the undersigned

(Name) certify

I. That the above-mentioned ship complies with the provisions of the Regulations annexed to the Convention referred to above as regards Radiotelephony:

	<i>Requirements of Regulations</i>	<i>Actual provision</i>
Hours of listening by operator
Number of operators

II. That the functioning of the portable radio apparatus for survival craft, if provided, complies with the provisions of the said Regulations.

This certificate is issued under the authority of the Government. It will remain in force until...

Issued at the day of 19.....

Here follows the seal or signature of the authority entitled to issue the certificate.

(Seal)

If signed, the following paragraph is to be added:

The undersigned declares that he is duly authorized by the said Government to issue this certificate.

(Signature)

NOTE: It will be sufficient to indicate the year in which the keel was laid or when the ship was at a similar stage of construction except for 1952, 1965 and the year of the coming into force of the International Convention for the Safety of Life at Sea, 1974, in which cases the actual date should be given.

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

FORM OF EXEMPTION CERTIFICATE

EXEMPTION CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the International Convention for the Safety of Life at Sea, 1974

Name of ship	Distinctive number or letters	Port of registry	Gross tonnage	Date on which keel was laid (see NOTE below)

The _____
I, the undersigned

(Name) Government certifies
(Name) certify

That the above-mentioned ship is, under the authority conferred by Regulation of Chapter of the Regulations annexed to the Convention referred to above, exempted from the requirements of** of the Convention on the voyagesto.....

*Insert here the conditions, if any, on which the exemption certificate is granted. *

This certificate is issued under the authority of the Government. It will remain in force until Issued at the day of 19.....

Here follows the seal or signature of the authority entitled to issue the certificate.

(Seal)

If signed, the following paragraph is to be added:

The undersigned declares that he is duly authorized by the said Government to issue this certificate.

(Signature)

** Insert here references to Chapters and Regulations, specifying particular paragraphs.

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

FORM OF SAFETY CERTIFICATE FOR NUCLEAR PASSENGER SHIPS

NUCLEAR PASSENGER SHIP SAFETY CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the International Convention for the Safety of Life at Sea, 1974

<i>Name of ship</i>	<i>Distinctive number or letters</i>	<i>Port of registry</i>	<i>Gross tonnage</i>	<i>Particulars of voyages, if any, sanctioned under Regulation 27(c)(vii) of Chapter III</i>	<i>Date on which keel was laid (see NOTE below)</i>

The _____
I, the undersigned

(Name) Government certifies
(Name) certify

I. That the above-mentioned ship has been duly surveyed in accordance with the provisions of the Convention referred to above.

II. That the ship, being a nuclear ship, complied with all requirements of Chapter VIII of the Convention and conformed to the Safety Assessment approved for the ship.

III. That the survey showed that the ship complied with the requirements of the Regulations annexed to the said Convention as regards:

- (1) the structure, main and auxiliary boilers and other pressure vessels and machinery;
- (2) the watertight subdivision arrangements and details;
- (3) the following subdivision load lines:

<i>Subdivision load lines assigned and marked on the ship's side at amidships (Regulation 11 of Chapter II-1)</i>	<i>Freeboard</i>	<i>To apply when the spaces in which passengers are carried include the following alternative spaces</i>
C1
C2
C3

IV. That the life-saving appliances provided for a total number of persons and no more, viz.:

- lifeboats (including motor lifeboats) capable of accommodating persons, and motor lifeboats fitted with radiotelegraph installation and searchlight (included in the total

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

lifeboats shown above) and motor lifeboats fitted with searchlight only (also included in the total lifeboats shown above), requiring certificated lifeboatmen;

- liferafts, for which approved launching devices are required, capable of accommodating persons; and

- liferafts, for which approved launching devices are not required, capable of accommodating persons;

- buoyant apparatus capable of supporting persons;

- lifebuoys;

- life-jackets.

V. That the lifeboats and liferafts were equipped in accordance with the provisions of the Regulations.

VI. That the ship was provided with a line-throwing appliance and portable radio apparatus for survival craft, in accordance with the provisions of the Regulations.

VII. That the ship complied with the requirements of the Regulations as regards radiotelegraph installations, viz.:

	<i>Requirements of Regulations</i>	<i>Actual provision</i>
Hours of listening by operator
Number of operators
Whether auto alarm fitted
Whether main installation fitted
Whether reserve installation fitted
Whether main and reserve transmitters electrically separated or combined
Whether direction-finder fitted
Whether radio equipment for homing on the radiotelephone distress frequency fitted
Whether radar fitted
Number of passengers for which certificated

VIII. That the functioning of the radiotelegraph installations for motor lifeboats and/or the portable radio apparatus for survival craft, if provided, complied with the provisions of the Regulations.

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

IX. That the ship complied with the requirements of the Regulations as regards fire-detecting and fire-extinguishing appliances, radar echo-sounding device and gyro-compass and was provided with navigation lights and shapes, pilot ladder, and means of making sound signals and distress signals in accordance with the provisions of the Regulations and also the International Regulations for Preventing Collisions at Sea in force.

X. That in all other respects the ship complied with the requirements of the Regulations, so far as these requirements apply thereto.

This certificate is issued under the authority of the Government. It will remain in force until.....

Issued at the day of 19.....

Here follows the seal or signature of the authority entitled to issue the certificate.

(Seal)

If signed, the following paragraph is to be added:

The undersigned declares that he is duly authorized by the said Government to issue this certificate.

(Signature)

NOTE: It will be sufficient to indicate the year in which the keel was laid or when the ship was at a similar stage of construction except for 1965 and the year of the coming into force of the International Convention for the Safety of Life at Sea, 1974, in which cases the actual date should be given.

In the case of a ship which is converted as provided in Regulation 1(b)(i) of Chapter II-1 or Regulation 1(a)(i) of Chapter II-2, the date on which the work of conversion was begun should be given.

FORM OF SAFETY CERTIFICATE FOR NUCLEAR CARGO SHIPS

NUCLEAR CARGO SHIP SAFETY CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the International Convention for the Safety of Life at Sea, 1974

<i>Name of ship</i>	<i>Distinctive number or letters</i>	<i>Port of registry</i>	<i>Gross tonnage</i>	<i>Date on which keel was laid (see NOTE below)</i>

The
I, the undersigned

(Name) Government certifies
(Name) certify

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

- I. That the above-mentioned ship has been duly surveyed in accordance with the provisions of the Convention referred to above.
- II. That the ship, being a nuclear ship, complied with all requirements of Chapter VIII of the Convention and conformed to the Safety Assessment approved for the ship.
- III. That the survey showed that the ship satisfied the requirements set out in Regulation 10 of Chapter I of the Convention as to hull, machinery and equipment, and complied with the relevant requirements of Chapter II-I and Chapter II-2.
- IV. That the life-saving appliances provide for a total number of persons and no more, viz.:
- lifeboats on port side capable of accommodating persons;
 - lifeboats on starboard side capable of accommodating persons;
 - motor lifeboats (included in the total lifeboats shown above) including motor lifeboats fitted with radiotelegraph installation and searchlight, and motor lifeboats fitted with searchlight only;
 - liferafts, for which approved launching devices are required, capable of accommodating persons; and
 - liferafts for which approved launching devices are not required, capable of accommodating persons;
 - lifebuoys;
 - life-jackets.
- V. That the lifeboats and liferafts were equipped in accordance with the provisions of the Regulations annexed to the Convention.
- VI. That the ship was provided with a line-throwing apparatus and portable radio apparatus for survival craft in accordance with the provisions of the Regulations.
- VII. That the ship complied with the requirements of the Regulations as regards radiotelegraph installations, viz.:

	<i>Requirements of Regulations</i>	<i>Actual provision</i>
Hours of listening by operator
Number of operators
Whether auto alarm fitted

BRUNEI DARUSSALAM TREATY SERIES

International Convention for the Safety of Life at Sea

Whether main installation fitted	...	...
Whether reserve installation fitted	...	...
Whether main and reserve transmitters electrically separated or combined	...	...
Whether direction-finder fitted	...	...
Whether radio equipment for homing on the radiotelephone distress frequency fitted	...	...
Whether radar fitted	...	...

VIII. That the functioning of the radiotelegraph installations for motor lifeboats, and/or the portable radio apparatus for survival craft, if provided, complied with the provisions of the Regulations.

IX. That the inspection showed that the ship complied with the requirements of the said Convention as regards fire-extinguishing appliances, radar, echo-sounding device and gyro-compass and was provided with navigation lights and shapes, pilot ladder, and means of making sound signals and distress signals in accordance with the provisions of the Regulations and the International Regulations for Preventing Collisions at Sea in force.

X. That in all other respects the ship complied with the requirements of the Regulations so far as these requirements apply thereto.

This certificate is issued under the authority of the Government. It will remain in force until.....

Issued at the day of 19.....

Here follows the seal or signature of the authority entitled to issue the certificate.

(Seal)

If signed, the following paragraph is to be added:

The undersigned declares that he is duly authorized by the said Government to issue this certificate.

(Signature)

NOTE: It will be sufficient to indicate the year in which the keel was laid or when the ship was at a similar stage of construction except for the year 1965 and the year of the coming into force of the International Convention for the Safety of Life at Sea, 1974, in which cases the actual date should be given.

