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RELATIONS WITH THE UNITED NATIONS AND THE SPECIALIZED AGENCIES

(b) Co-ordination within the United Nations system

Note by the Secretary-General

SUMMARY

Executive summary: Attached to this document is an updating of the study on the Implications of the United Nations Convention on the Law of the Sea for IMO (LEG/MISC/3).

Action to be taken: Paragraph 10

Related documents: LEG/MISC/1, C 74/22(b)/1, C 74/D; LEG/MISC/2, C/ES.19/19(b)/1 and C/ES.19/D

Introduction

1 After the adoption in 1982 of the United Nations Convention on the Law of the Sea (UNCLOS) the Secretariat of IMO, in consultation with the former Office of the Special Representative of the Secretary-General of the United Nations for the Law of the Sea (now the Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs, United Nations), prepared a study on the "Implications of the United Nations Convention on the Law of the Sea, 1982 for the International Maritime Organization" (LEG/MISC/1). The study was issued in 1987. It was widely circulated among Governments, intergovernmental and non-governmental organizations, as well as academic institutions and individuals researching on subjects relating to IMO's work and UNCLOS.

2 At its seventy-third session (November 1994), the Council was informed that the Secretariat would review and update the initial study in 1987 on the implications of the Convention on the Law of the Sea for IMO.

3 At its seventy-fourth session (June 1995), the IMO Council commented and endorsed proposals as to how IMO could fulfill its role under UNCLOS as a "competent international organization", bearing in mind the entry into force of the Convention. The Council endorsed the proposal that the study prepared by the Secretariat in 1987 should be broadened and updated, taking into account not only the instruments already adopted and their amendments, but also the current programmes of work and the long-term work plan of the Organization. In the view of the Council, this would enable IMO to consider whether there was a need for it to take additional measures to ensure a uniform, consistent and co-ordinated approach to the implementation of the provisions of UNCLOS throughout the United Nations system, as requested by the General

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Assembly of the United Nations in Resolution 49/28, which deals with the entry into force of the Convention.

4 At its nineteenth extraordinary session (November 1997) the Council took note of the updated study on the Implications of the entry into force of the United Nations Convention on the Law of the Sea for IMO (LEG/MISC/2) and recommended that the various organs and bodies of the Organization keep the above-mentioned study in mind as a reference document in the context of their work (C/ES.19/D, paragraphs 19(b), 1 and 2).

5 The updating attached (LEG/MISC/3) uses the same methodological approach as the 1997 study and reflects developments which have occurred at IMO since then. Following consideration by the Council, information on the outcome of the Diplomatic Conference on Maritime Security will be included to complete the updating of the Study to the end of this year. Further updating would follow after each regular session of the IMO Assembly.

Contents of the study

6 Part I includes comments and concepts applicable to the assessment of the general legal framework relating UNCLOS to the work of IMO and IMO instruments.

7 A detailed analysis of the relation between UNCLOS and different IMO instruments is made in Part II. This part is composed of four chapters which deal respectively with safety of navigation, prevention and control of marine pollution, liability and compensation and technical co-operation and assistance to developing countries.

8 Part III deals with the role of IMO in the settlement of disputes, in the light of the provisions of UNCLOS in this area.

9 In part IV it is considered whether, in the light of the entry into force of UNCLOS, it may become necessary to modify or extend the Organization's functions or responsibilities within its constitutional framework. It is further suggested that IMO may have an important role to play in assisting Parties to UNCLOS in connection with the implementation of those parts of the Convention which deal with matters within the specific field of competence of IMO.

Action requested of the Council

10 The Council is invited to note the information provided in this document and to recommend to the various organs and bodies of the Organization to keep the above-mentioned study in mind as a reference document in the context of their work.

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**IMPLICATIONS OF THE UNITED NATIONS CONVENTION ON
THE LAW OF THE SEA FOR THE
INTERNATIONAL MARITIME ORGANIZATION**

INTRODUCTION

This document is intended to provide an overview of all aspects of the work of the International Maritime Organization (IMO) which relate to the United Nations Convention on the Law of the Sea ("the Convention" or "UNCLOS"). Originally prepared in 1987 and issued as document LEG/MISC/1, this survey was substantially revised and updated after the entry into force of UNCLOS and issued as document LEG/MISC/2 in 1997. The present document reflects developments which have taken place since 1997 and has been prepared in consultation with the Division for Ocean Affairs and the Law of the Sea of the United Nations (DOALOS).

Part I includes comments and concepts applicable to the assessment of the general legal framework relating UNCLOS to the work of IMO and IMO instruments.

A detailed analysis of the relation between UNCLOS and different IMO instruments is made in Part II.

Part III deals with the role of IMO in the settlement of disputes, in the light of the provisions of UNCLOS in this area.

In Part IV the scope of IMO activities in the light of the entry into force of UNCLOS is considered in connection with possibilities of modifying or extending the Organization's functions and responsibilities.

A list of IMO treaties and resolutions of the IMO Assembly particularly related to the Convention is contained in annex I.

Annex II contains a table showing the relation between articles of UNCLOS and relevant IMO instruments.

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PART I

GENERAL FEATURES OF THE RELATIONSHIP BETWEEN UNCLOS AND IMO SHIPPING REGULATIONS

Historical background

Since 1973 the Secretariat of IMO (then, IMCO) actively contributed to the work of the Third United Nations Conference on the Law of the Sea (UNCLOS) in order to ensure that the elaboration of IMO instruments conformed with the basic principles guiding the elaboration of UNCLOS.

The avoidance of overlapping or potential conflicts between IMO's work and that of UNCLOS was achieved by the inclusion in several IMO conventions of provisions which specifically indicated that their text would not prejudice the codification and development of the law of the sea by UNCLOS or any 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.

After the adoption of UNCLOS, the IMO Secretariat held consultations first with the Office of the Special Representative of the Secretary-General of the United Nations for the Law of the Sea and later with the Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs, United Nations in connection with several matters relating IMO's work to UNCLOS. Even before the entry into force of this Convention in 1994, explicit or implicit references to its provisions were incorporated into several IMO treaty and non-treaty instruments.

The global mandate of IMO

Although IMO is explicitly mentioned in only one of the articles of UNCLOS (article 2 of Annex VIII), several provisions in the Convention refer to the "competent international organization" in connection with the adoption of international shipping rules and standards in matters concerning maritime safety, maritime security, efficiency of navigation and the prevention and control of marine pollution from vessels and by dumping.

In such cases the expression "competent international organization", when used in the singular in UNCLOS, applies exclusively to IMO, bearing in mind the global mandate of the Organization as a specialized agency within the United Nations system established by the Convention on the International Maritime Organization (the "IMO Convention"). The IMO Convention was adopted by the United Nations Maritime Conference in Geneva on 6 March 1948. (The original name of "Inter-Governmental Maritime Consultative Organization" was changed by IMO Assembly resolutions A.358(IX) and A.371(X), adopted in 1975 and 1977 respectively).

Numerous provisions in UNCLOS refer to the mandate of several organizations in connection with the same subject matter. In some of these cases, activities set forth in these provisions may involve the work of IMO, in co-operation with other organizations. In order to assist States and to contribute to a better understanding of the implications of the Convention for the organizations and bodies dealing with maritime affairs both within and outside the United Nations system, the Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs prepared a table on "Competent or relevant international organizations" under UNCLOS. This table, which was published in the Law of the Sea Bulletin No. 31 lists the subjects and articles in the sequence in which they appear in the Convention, together with the corresponding competent organizations.

Article 1 of the IMO Convention establishes the global scope of the safety and antipollution activities of IMO. It also refers to other tasks such as the promotion of efficiency of navigation and the availability of shipping services based upon the freedom of shipping of all flags to take part in international trade without discrimination. Article 59 features IMO as the specialized agency within the United Nations system in the field of shipping and the effect of shipping on the marine environment. Articles 60 to 62 refer to co-operation between IMO and other specialized agencies as well as governmental and non-governmental organizations, in matters of common concern and interests.

The wide acceptance and uncontested legitimacy of IMO's universal mandate in accordance with international law is evidenced by the following facts:

- 162 sovereign States representing all regions of the world are at present Parties to the IMO Convention and accordingly Members of IMO;
- all Members may participate at meetings of IMO bodies in charge of the elaboration and adoption of recommendations containing safety and antipollution rules and standards. These rules and standards are normally adopted by consensus;
- all States, irrespective of whether they are or are not Members of IMO or the United Nations, are invited to participate at IMO conferences in charge of adopting new IMO conventions. All IMO treaty instruments have so far been adopted by consensus.

Relationship between UNCLOS and IMO instruments

UNCLOS is acknowledged to be an "umbrella convention" because most of its provisions, being of a general kind, can be implemented only through specific operative regulations in other international agreements.

This feature is reflected in several provisions in UNCLOS which require that States "take account of", "conform to", "give effect to" or "implement" the relevant international rules and standards developed by or through the "competent international organization" (IMO). These are variously referred to as "applicable international rules and standards", "internationally agreed rules, standards, and recommended practices and procedures", "generally accepted international rules and standards", "generally accepted international regulations", "applicable international instruments" or "generally accepted international regulations, procedures and practices".

The articles and provisions of UNCLOS which are of particular relevance in this context include the following:

- article 21(2), which refers to the "generally accepted international rules or standards" on the "design, construction, manning or equipment" of ships in the context of laws relating to innocent passage through the territorial sea; article 211(6)(c), which refers to the "generally accepted international rules and standards" in the context of pollution from vessels; articles 217(1) and (2), which refer to the "applicable international rules and standards" in the context of flag State enforcement; and articles 94(3), (4) and (5), which requires flag States to conform to the "generally accepted international regulations, procedures and practices" governing, *inter alia*, the construction, equipment and seaworthiness of ships, as well as the manning of ships and the training of crews, taking into account "applicable international instruments";
- articles 21(4), 39(2), and by reference article 54, which refer to "generally accepted international regulations" in the context of the prevention of collisions at sea;

- articles 22(3)(a), 41(4) and 53(9) refer to the "recommendations [or proposals] of the competent international organization" (IMO) in the context of the designation of sea lanes, the prescription of traffic separation schemes, and their substitution;
- article 23 refers to the requirements in respect of documentation and special precautionary measures established by international agreements for foreign nuclear-powered ships and ships carrying nuclear or inherently dangerous or noxious substances;
- article 60, and article 80 refers to the "generally accepted international standards established ... by the competent international organization (IMO)" for the removal of abandoned or disused installations or structures to ensure safety of navigation (paragraph 3); the "applicable international standards" for the determination of the breadth of the safety zones; the "generally accepted standards or recommendations" of the "competent international organization (IMO)" where the breadth exceeds a distance of 500 metres (paragraph 5); and the "generally accepted international standards" regarding navigation in the vicinity of artificial islands, installations, structures and safety zones (paragraph 6);
- article 94(3), (4), and (5) which regulate the duties of flag States, article 39(2) which concerns the duties of ships in transit passage, and also articles 54, and 58(2) refer to the "generally accepted international regulations, procedures and practices" for safety at sea and for the prevention, reduction and control of pollution from ships.
- article 210(4) and (6) refer to the "global rules, standards, and recommended practices and procedures" for the prevention, reduction and control of pollution by dumping; and article 216(1) refers to the enforcement of such "applicable rules and standards established through competent international organizations or general diplomatic conference";
- article 211 refers to the "international rules and standards" established by "States acting through the competent international organization" (paragraph 1) and "generally accepted international rules and standards established through the competent international organization" (paragraphs 2 and 5) for the prevention, reduction and control of pollution of the marine environment from vessels; while articles 217(1) and (2), article 218(1) and (3), and article 220(1), (2) and (3), dealing with enforcement of anti-pollution rules, refer to the "applicable international rules and standards". Articles 217(3) and 226(1) refer to the certificates (records and other documents) required by international rules and standards in the context of pollution control.
- article 211(6)(a), regarding pollution from vessels, refers to such "international rules and standards or navigational practices as are made applicable through the competent international organization (IMO), for special areas;
- article 211(7) requires such "international rules and standards" to include *inter alia* 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;
- articles 219 and 226(1)(c) which concerns measures relating to seaworthiness of vessels, refer to "applicable international rules and standards"; while article 94(5) requires flag States to conform to "generally accepted international regulations, procedures and practices" to ensure safety at sea.

These provisions clearly establish an obligation for States Parties to UNCLOS to apply IMO rules and standards. The specific form of such application relies to a great extent on the interpretation given by Parties to UNCLOS to the expressions "take account of", "conform to", "give effect to" or "implement" IMO provisions. A distinction should be also made between the two main types of IMO instruments in which such provisions are contained, namely, on the one hand the recommendations adopted by the IMO Assembly, the IMO Maritime Safety Committee (MSC) and the IMO Marine Environment Protection Committee (MEPC), and on the other the rules and standards contained in IMO treaties.

IMO resolutions

All IMO Member States are entitled to participate in the adoption of resolutions by the IMO Assembly, the MSC and the MEPC which recommend the implementation of technical rules and standards not included in IMO treaties. These resolutions are normally adopted by consensus and accordingly reflect global agreement by all IMO Members. Parties to UNCLOS are expected to conform to these rules and standards, obviously bearing in mind the need to adapt them to the particular circumstances of each case. Moreover, national legislation implementing IMO recommendations can be applied with binding character to foreign ships.

Technical codes or guidelines included in the resolutions are frequently made mandatory by incorporation into national legislation. This is, for instance, the case of the International Maritime Dangerous Goods Code (IMDG Code). (Consideration is presently being given by the Maritime Safety Committee to making the IMDG code mandatory under the SOLAS Convention.)

In several cases, codes and guidelines initially contained in non-mandatory IMO resolutions are incorporated at a later stage into IMO treaties. For instance, the International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (IBC Code) has been incorporated into both SOLAS and MARPOL.

IMO treaty instruments

The general obligations established by UNCLOS to comply with IMO rules and standards should, in the case of IMO conventions and protocols, be assessed bearing in mind the specific operative features of each treaty. These features relate not only to the way in which these rules and standards regulate substantive matters such as the construction, equipment or manning of ships but also to the procedural rules governing the interrelation between flag and port State jurisdiction in matters such as recognition of certificates and enforcement of sanctions for violation of treaty obligations.

Furthermore, application of IMO treaties should be guided by the provisions contained in articles 311 and 237 of UNCLOS. Article 311 regulates the relation between the Convention and other conventions and international agreements. Article 237 includes specific provisions on the relationship between UNCLOS and other conventions on the protection and preservation of the marine environment.

Article 311(2) provides that the Convention shall not alter the rights and obligations of States Parties which arise from other agreements, provided that they are compatible with the Convention and do not affect the application of its basic principles. As long as this paramount proviso of compatibility with the basic principles of the Convention is observed, international agreements expressly permitted or preserved by other articles of this Convention will not be affected (article 311(5)).

Article 237(1) establishes that the provisions of part XII of the Convention 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 the Convention. Paragraph 2 further provides that 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 the Convention.

Against this background, compatibility between UNCLOS and IMO treaties can be established on the basis of the following facts:

- Several provisions in UNCLOS reflect principles compatible with those already included in IMO treaties and recommendations adopted prior to the Convention. In this regard, mention should be made of provisions on collisions at sea, search and rescue of persons in distress at sea, traffic separation schemes, exercise of port State jurisdiction for the protection and preservation of the marine environment, liability and compensation for oil pollution damage and measures to avoid pollution arising from maritime casualties.
- The participation of the IMO Secretariat at sessions ensured that no overlapping, inconsistency or incompatibility existed between UNCLOS and IMO treaties adopted after 1973. Compatibility was in some cases further ensured by the inclusion in IMO treaties of specific clauses indicating that these treaties should not be interpreted as prejudicing the codification and development of the law of the sea by UNCLOS (see article 9(2) of MARPOL 73/78, article V of STCW 1978, and article II of SAR). A similar provision was included in the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (London Convention), in respect of which IMO performs secretariat functions. These clauses also stipulated that nothing in these treaties shall prejudice 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. In this way, legal certainty was provided by ensuring that IMO global regulatory activities did not overlap with developments in the field of codification of the law of the sea.

Legal status of IMO treaties in accordance with international law and the Law of the Sea. Consequences for Parties to UNCLOS

The degree of acceptability and world-wide implementation enjoyed by the rules and standards contained in IMO treaties is paramount in considering the extent to which Parties to UNCLOS should, in compliance with obligations specifically prescribed in the Convention, apply IMO rules and standards. In this regard it should be noted that reference to the obligation for States Parties to the Convention to "take account", "conform to", "give effect to" or "implement" IMO rules and standards is related to the requirement that these standards are "applicable" or "generally accepted". This means that the degree of international acceptance of these standards is decisive in establishing the extent to which Parties to UNCLOS are under the obligation to implement them.

The criteria to establish the degree of compliance of the most important IMO treaties with the requirement of general acceptance must in the first place take into account that since 1982 formal acceptance of the most relevant IMO treaty instruments has increased so greatly that it seems beyond question that these treaties are widely accepted and implemented world-wide.

At present, between 98 and 143 States (depending on the treaty) have become Parties to the main IMO conventions. Since the general degree of acceptance of these shipping conventions is mainly related to their implementation by flag States, it is of paramount importance to note that States Parties to these Conventions in all cases represent more than 90 per cent of the world's merchant fleet. The effectiveness of this wide implementation is strengthened by the fact that, on account of the principle of "no-more-favourable-treatment", port States which are Parties to the three conventions which include, respectively, the most comprehensive sets of rules and standards on safety, pollution prevention and training and certification of seafarers (SOLAS, MARPOL and STCW) are obliged to apply these rules and standards to vessels flying the flag of non-party States.

Technical rules and standards contained in several IMO treaties can be updated through a procedure of tacit acceptance of amendments. This procedure enables amendments to enter into force on a date selected by the conference or meeting at which they are adopted, unless within a certain period of time after adoption they are explicitly rejected by a specified number of Contracting Parties representing a certain percentage of the gross tonnage of the world's merchant fleet.

IMO treaties and amendments to them are normally adopted by consensus.

These facts are decisive in establishing the extent to which any obligation under UNCLOS to comply with generally accepted safety and anti-pollution shipping standards could bind Parties to the Convention even if they are not Parties to the IMO treaties containing those rules and standards. Further considerations to establish the degree to which this binding character could operate should take account of the following circumstances:

- The degree of compliance with IMO rules would vary depending on the interpretation given by Parties to UNCLOS to the expressions "give effect to", "implement", "conform to" or "take account of", as referring to IMO rules and standards. Parties should, in each case, assess the context of UNCLOS provisions establishing obligations in this regard and relate this context to the specific IMO treaty and corresponding rules and standards referred to in UNCLOS.
- The bottom line of such an assessment seems to be that Parties to UNCLOS should ensure that ships flying their flag or foreign ships under their jurisdiction apply generally accepted IMO provisions regarding safety and prevention and control of pollution. Non-compliance with these IMO provisions would result in sub-standard ships and violate the basic obligations on safety of navigation and prevention of pollution from ships regulated in UNCLOS.
- The fact that Parties to UNCLOS should apply IMO rules and standards should be seen as a paramount incentive for them to become Parties to the IMO treaties containing those rules and standards. As Parties to these treaties they would be entitled to the specific rights conferred upon them in accordance with specific treaty law provisions in each case. Paramount among them would be the value accorded by IMO treaties to certificates issued by Parties.

The exercise of State jurisdiction in accordance with IMO instruments

While UNCLOS defines the features and extent of the concepts of flag, coastal and port State jurisdiction, IMO instruments specify how State jurisdiction should be exercised to ensure compliance with safety and antipollution shipping regulations. The enforcement of these regulations is primarily the responsibility of the flag State. Nevertheless, one of the most important features reflecting the evolution of IMO's work in the last three decades is the progressive strengthening of port State jurisdiction with a view to correcting non-compliance with IMO rules and standards by foreign ships voluntarily in port. Voluntary access to port implies acceptance by the foreign ship of

the powers of the port State to exert corrective jurisdiction in order to ensure compliance with IMO regulations. The interrelation between flag and port State jurisdiction will be further analysed in part II in connection with the description of the jurisdictional features of IMO treaties.

An important distinction of a general kind can nevertheless be advanced here: in every IMO treaty the exercise of port State jurisdiction to correct deficiencies in the implementation of rules and standards laid down in these treaties should be distinguished from the power of the port State to impose sanctions. Sanctions can be imposed for violations occurring outside port State jurisdiction committed by a foreign ship voluntarily in port. The distinction is especially important in the case of pollution damage. In this regard, the power conferred by IMO regulations on the port State to impose sanctions (notably in the MARPOL Convention) should be related to the features and extension of these jurisdictional powers, as regulated in part XII of UNCLOS.

In general, IMO treaties do not regulate the nature and extent of coastal State jurisdiction. Thus, the degree to which coastal States may enforce IMO regulations in respect of foreign ships in innocent passage in their territorial waters, or navigating the exclusive economic zone (EEZ) is a subject to be regulated by UNCLOS. The same principle applies to transit passage in straits used for international navigation or to archipelagic sea lane passage in archipelagic waters. (It may be noted that MARPOL includes provisions on monitoring and investigating illegal discharges of harmful substances into the marine environment.)

There is, however, one case where coastal State jurisdiction has been regulated by two IMO instruments: the Convention Relating to the Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969 and its Protocol Relating to Intervention on the High Seas in Cases of Pollution by Substances Other than Oil, 1973, are international public law treaties which specifically regulate the right of the coastal State to intervene on the high seas in the case of pollution casualties.

The enforcement of routing measures adopted at IMO also relies primarily on the exercise of coastal State jurisdiction.

The maritime zones and the implementation of IMO regulations

States Party to IMO treaties are under the obligation to enforce jurisdiction on ships flying their flag, irrespective of the maritime zone where the ships may be. Accordingly, the different legal status of the territorial sea, the EEZ and the high seas does not directly influence the way safety and antipollution measures on board should be implemented. The proximity of the coast, artificial islands and platforms sometimes modify this implementation on account of the different features of safety and antipollution risks existing there, rather than the different jurisdictional regimes applicable to the corresponding sea areas.

The existence of maritime zones, however, becomes relevant in determining how coastal State jurisdiction should be exerted in connection with the enforcement of routing measures to be adopted by the Organization. IMO's general provisions on ships' routing should in this regard be interpreted together with the corresponding provisions of UNCLOS. The legal status of the different sea zones has also been taken into account in the four IMO Conventions establishing a regime on civil liability and compensation for oil pollution damage (the Civil Liability Convention, the FUND Convention, the HNS Convention, 1996, and the Bunker Oil Convention, 2001). In such conventions, the legitimacy of States Parties to file claims for pollution damage is dependent on where the damage occurred, whether within their territory, the territorial sea, or within the EEZ.

PART II

RELATIONSHIP BETWEEN UNCLOS AND IMO INSTRUMENTS

This part is composed of four chapters which deal respectively with the following subjects:

- Safety of navigation
- Prevention and control of marine pollution
- Liability and compensation
- Technical co-operation and assistance to developing countries.

CHAPTER I

SAFETY OF NAVIGATION

1 GENERAL

Several provisions in UNCLOS set up the jurisdictional framework for the adoption and implementation of safety rules and standards. As mentioned in the Introduction, IMO's global mandate for the adoption of international regulations in this regard is acknowledged whenever reference is made to the competent organization through which those regulations are adopted.

Enforcement of IMO regulations concerning construction, equipment, seaworthiness and manning of ships primarily relies on the exercise of flag State jurisdiction. Other subjects such as signals, communications, prevention of collisions, ships' routing, and ship reporting imply the effective exercise of both flag and coastal State jurisdiction. Furthermore, several IMO instruments regulate the degree to which States may enforce corrective measures to ensure that foreign ships voluntarily in port comply with international safety regulations. However, such enforcement is limited to the conditions laid down in the main IMO safety conventions.

UNCLOS establishes the basic features relating to the exercise of flag State jurisdiction in the implementation of safety regulations. It also regulates the extent to which coastal States may legitimately interfere with the navigation of foreign ships in different maritime zones for the purpose of ensuring proper compliance with these regulations.

Flag State jurisdiction

The basic obligations imposed upon the flag State are contained in article 94 of UNCLOS which requires flag States to take measures to ensure safety at sea which conform to "generally accepted international regulations, procedures and practices" (article 94 (3), (4) and (5)). The following IMO conventions may, on account of their world-wide acceptance, be deemed to fulfill the requirement of general acceptance:

- International Convention for the Safety of Life at Sea, 1974 (SOLAS 74);
- Protocol of 1978 relating to the International Convention for the Safety of Life at Sea, 1974 (SOLAS Protocol 78);
- International Convention on Load Lines, 1966 (LOAD LINES 1966);

- International Convention on Tonnage Measurement of Ships, 1969 (TONNAGE 1969);
- Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREG 1972);
- International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (STCW 1978);
- International Convention on Maritime Search and Rescue (SAR 1979).

IMO resolution A.847(20) on guidelines to assist flag States in the implementation of IMO instruments provide flag States with a means to establish and maintain measures for the effective application and enforcement of the following IMO Conventions: SOLAS 1974, MARPOL 73/78, Load Lines, and STCW 1978. A subsequent IMO resolution A.912(22), which supersedes and revokes A.881(21), provides guidance to assist flag States in the self-assessment of their performance; and Assembly resolution A.914(22) provides guidance on measures to further strengthen flag State implementation. Enforcement of IMO safety and antipollution provisions has been strengthened by the incorporation into SOLAS of the International Safe Management Code (ISM) under which companies operating ships are subject to a safe management system under the control of the administration of the flag State.

Basic obligations for the flag State regarding safety of navigation are included in part VII of UNCLOS dealing with the high seas, where enforcement of international safety regulations relies exclusively upon the effective exercise of flag State jurisdiction. Enforcement of these regulations continues to rely primarily on the exercise of flag State jurisdiction irrespective of where the ship is navigating.

Coastal State jurisdiction

IMO treaty instruments do not attempt to regulate the jurisdictional power of the coastal State. This is a subject exclusively within the scope of UNCLOS. This Convention provides the enforcement framework for IMO instruments by establishing the degree to which coastal States may legitimately interfere with foreign ships in order to ensure compliance with IMO rules and standards.

Against this background, the following provisions of UNCLOS are relevant for the enforcement of IMO standards by coastal States:

- In its territorial sea, the coastal State may enact laws and regulations relating to innocent passage (article 21(1)), particularly with respect to safety of navigation and the regulation of maritime traffic (article 21(1)(a)). These laws and regulations must conform with the provisions of the Convention and "other rules of international law". The adoption of the IMO conventions referred to above and their consequent incorporation into national legislation entitles coastal States to request that foreign ships in innocent passage through their territorial sea comply with the rules of these conventions, even if the flag State is not party to the relevant instrument.
- The laws and regulations relating to sea lanes, traffic separation schemes and transit passage which States bordering straits may enact in respect of safety of navigation and the regulation of maritime traffic, in accordance with articles 41 and 42, must conform to "generally accepted international regulations" (articles 42(1)(a) and 41(3)). On account of their wide acceptance, the above-mentioned IMO treaties may be considered to fall in this category. As in the case of the territorial sea, foreign ships must comply with the laws of bordering States that implement these regulations,

even if their flag States are not bound by the treaties containing these regulations. Furthermore, in order to protect bordering States' interests, UNCLOS has imposed on foreign ships in transit passage the obligation to comply with "generally accepted international regulations, procedures and practices for safety at sea, including the International Regulations for Preventing Collisions at Sea" (article 39(2)(a)). This expression seems to have a wider connotation in that it may cover also non-binding instruments. (It may also be noted that elements of search and rescue are encompassed within the terms of article 39.)

- In accordance with article 35(c), provisions in the Convention concerning straits used for international navigation (part III) do not affect the legal regime in straits in which passage is regulated by related long-standing international conventions in force specifically relating to such straits. These conventions should, however, be implemented bearing in mind the criteria of compatibility established in article 311 of UNCLOS and referred to in the introductory part of this document.
- Article 54 of UNCLOS extends the application of the above-mentioned provisions on transit passage to archipelagic sea lanes passage.
- By operation of article 58(2), the regime of the high seas applies in principle to the EEZ. As will be explained below, coastal States may adopt jurisdictional measures in connection with the implementation of routeing measures.

(See below for further relevant discussion under the section 5 on "Ships' Routing" and under section 6 on "Ship Reporting.")

Port State jurisdiction

In contrast to the case of coastal State jurisdiction, the most important IMO conventions include provisions which in fact regulate the features of port State jurisdiction and the extent to which this jurisdiction should be exerted. It should be noted that within the context of the implementation of IMO instruments, port State jurisdiction is a concept of an essentially corrective kind: its exercise aims at correcting non-compliance or ineffective flag State enforcement of IMO regulations by foreign ships voluntarily in port.

The exercise of port State jurisdiction for the purpose of correcting deficiencies in the implementation of safety rules is established in the main IMO safety conventions, namely, LOAD LINES 1966, TONNAGE 1969, SOLAS 1974, SOLAS PROTOCOL 1978 and STCW 1978. These treaties regulate the right of the port State to verify the contents of certificates issued by the flag State attesting compliance with safety provisions. They also entitle the port State to inspect the ship, if the certificates are not in order or if there are clear grounds to believe that the condition of the ship or of its equipment does not correspond substantially with the particulars of the certificates or if they are not properly maintained. SOLAS provides that the port State can check operational requirements when there are clear grounds for believing that the master or the crew are not familiar with essential shipboard procedure relating to the safety of the ship or procedures set out in the ship's safety management system.

STCW regulates the control of certificates by the authorities of port States which are Parties to that Convention in order to ensure that seafarers serving on board are competent in accordance with the Convention. Measures similar to those referred to in LOAD LINES and SOLAS can be taken when there are clear grounds to believe that a certificate has been fraudulently obtained, or its holder has not in fact been trained in accordance with the provisions of the Convention, or the ship is being operated in such a manner as to pose a danger to persons, property or the environment.

Resolution A.787(19) on procedures for port State control contains a comprehensive set of Guidelines on port State control inspections, identifications of contraventions and detention of ships. The procedures apply to ships which come under the provisions of SOLAS, LOAD LINES, STCW, TONNAGE and MARPOL. This guidance has been updated in resolution A.882(21) to address special port State control issues relating to the ISM Code requirements.

2 CONSTRUCTION, EQUIPMENT AND SEAWORTHINESS OF SHIPS

Article 94(3)(a) of UNCLOS imposes upon flag States the obligation to ensure safety at sea in the high seas with regard to the construction, equipment and seaworthiness of ships. A further specification of the content of this obligation is provided in paragraph 4(a) of the same article which indicates that measures to be taken by flag States shall include those necessary to ensure "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". Paragraph 5 provides that in taking such measures "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". This obligation also applies to the EEZ (article 58(2)). Article 217(2) of UNCLOS extends the scope of article 94(3) to the protection of the marine environment. It requires the flag State to ensure that its vessels are prohibited from sailing until they can proceed to sea in compliance with the requirements of international rules and standards with regard to design, construction and equipment of vessels.

UNCLOS provides in article 21(2) that the coastal State cannot impose on foreign ships in innocent passage through its territorial sea laws and regulations applicable to the design, construction, and equipment of foreign ships "unless they are giving effect to generally accepted international rules or standards". This provision is of paramount importance for the implementation of IMO treaty instruments containing such rules and standards because it sets a clear limit to the jurisdictional powers of the coastal State. Regulations imposing either additional or more stringent requirements than those regulated in such instruments could potentially violate the rules of innocent passage regulated by UNCLOS. Article 211(6)(c) provides that the additional laws and regulations which the coastal State can adopt for special areas in the EEZ shall not require foreign vessels to observe design, construction or equipment standards other than generally accepted international rules and standards.

The generally accepted international regulations and standards referred to in article 94(5) and the generally accepted international rules and/or standards referred to in articles 21(2) are basically contained in the SOLAS and LOAD LINES Conventions. These rules and standards, together with the antipollution rules and standards contained in MARPOL (see chapter II below) are also referred to in articles 211(6)(c), 217(2), and 219.

SOLAS 1974 and the SOLAS PROTOCOL 1978 regulate minimum standards for the construction, equipment and operation of ships, referring to subjects such as subdivision and stability, machinery and electrical installations, fire protection, detection and extinction, life-saving appliances and arrangements and radiocommunication. Regulations provide for surveys of various types of ships (oil carriers, gas and chemical tankers, passenger ships, ro-ro ferries, etc.), the issuing of documents certifying that the ships meet the required conditions, and the obligation to carry adequate equipment and nautical publications.

LOAD LINES 1966 determines the minimum freeboard to which a ship may be loaded, including the freeboard of tankers, taking into account the potential hazards present in different climate zones and seasons.

Construction and equipment requirements for the safety of fishing vessels are contained in the 1977 Torremolinos Convention as amended by the 1993 Torremolinos Protocol. Neither the Convention nor its Protocol have entered into force.

In addition to these conventions, IMO has adopted numerous recommendations, guidelines, and codes concerning the construction, equipment, and seaworthiness of ships. As stated above, while not legally binding, some of these regulations have been widely implemented by the Member States.

The new chapter V of SOLAS

At its seventy-third session, held in November/December 2000, the Maritime Safety Committee (MSC) adopted revised SOLAS Chapter V dealing with several aspects of safety of ships and safety of navigation. New chapter V will enter into force on 1 July 2002 under the system of tacit acceptance of amendments regulated by SOLAS. Main innovations are the following:

Adoption of "Black box" carriage requirements. Mandatory regulations require ships to carry voyage data recorders (VDRs). The regulations entered into force on 1 July 2002 and all new ships built on or after that date will have to be fitted with VDRs. Existing passenger ships and ro-ro ships will also be required to fit VDRs, while a study will be carried out to examine the need for mandatory carriage of VDRs on existing cargo ships.

The VDR regulations were amongst a raft of amendments to IMO's International Convention for the Safety of Life at Sea, 1974 (SOLAS) adopted during the seventy-third session of the Maritime Safety Committee (MSC), IMO's senior technical body, which met from 27 November to 6 December 2000.

Like the black boxes carried on aircraft, VDRs enable accident investigators to review procedures and instructions in the moments before an incident and help to identify the cause of any accident. The regulations for VDRs are contained in a revised Chapter V (Safety of Navigation) of SOLAS. Currently ships are recommended but not required to carry VDRs. Performance standards for VDRs were adopted by IMO in 1997.

AIS

The revised Chapter V also makes it mandatory for certain ships to carry an automatic identification system (AIS). Regulation 19 of the new Chapter V of SOLAS - Carriage requirements for shipborne navigational systems and equipment – sets out navigational equipment to be carried on board ships, according to ship type. Most equipment (gyrocompass, radar etc) was already required under the existing Chapter V, but the new regulation adds a requirement for carriage of automatic identification systems (AISs) capable of providing information about the ship to other ships and to coastal authorities automatically.

The regulation requires AIS to be fitted aboard all ships of 300 gross tonnage and upwards engaged on international voyages, cargo ships of 500 gross tonnage and upwards not engaged on international voyages and passenger ships irrespective of size built on or after 1 July 2002. It also applies to ships engaged on international voyages constructed before 1 July 2002, according to the following timetable:

- passenger ships, not later than 1 July 2003;
- tankers, not later than the first survey for safety equipment on or after 1 July 2003;

- ships, other than passenger ships and tankers, of 50,000 gross tonnage and upwards, not later than 1 July 2004;
- ships, other than passenger ships and tankers, of 10,000 gross tonnage and upwards but less than 50,000 gross tonnage, not later than 1 July 2005;
- ships, other than passenger ships and tankers, of 3,000 gross tonnage and upwards but less than 10,000 gross tonnage, not later than 1 July 2006; and
- ships, other than passenger ships and tankers, of 300 gross tonnage and upwards but less than 3,000 gross tonnage, not later than 1 July 2007.

Ships not engaged on international voyages constructed before 1 July 2002, will have to fit AISs not later than 1 July 2008. A flag State may exempt ships from carrying AISs when ships will be taken permanently out of service within two years after the implementation date.

Carriage requirements for shipborne navigational systems and equipment

New regulation 19 of chapter V allows an electronic chart display and information system (ECDIS) to be accepted as meeting the chart carriage requirements of the regulation. The regulation requires all ships, irrespective of size, to carry nautical charts and nautical publications to plan and display the ship's route for the intended voyage and to plot and monitor positions throughout the voyage. But the ship must also carry back up arrangements if electronic charts are used either fully or partially. Performance standards for electronic charts were adopted in 1995, by resolution A.817(19), which was amended in 1996 by resolution HSC.64(67) to reflect back-up arrangements in case of ECDIS failure. Additional amendments were made in 1998 by resolution MSC 86(70) to permit operation of ECDIS in RCDS mode.

High-Speed Craft Code 2000

The Code, and updated version of the one adopted in 1994 entered into force on 1 July 2002 under tacit acceptance. The Code is mandatory under SOLAS chapter X (Safety measures for high-speed craft). The new International Code for High Speed Craft, 2000 will apply to all HSC built on or after the date of entry into force. The original HSC Code was adopted by IMO in May 1994, but the rapid pace of development in this sector of shipping has meant an early revision of the Code. The original Code will continue to apply to existing high-speed craft. The changes incorporated in the new Code are intended to bring it into line with amendments to SOLAS and new recommendations that have been adopted in the past four years - for example, requirements covering public address systems and helicopter pick-up areas. Consequential amendments to SOLAS chapter X (Safety measures for high-speed craft) - to refer to the new Code - were also adopted.

Revised SOLAS chapter II-2 (Construction, fire protection, fire detection and fire extinction). New International Code for Fire Safety Systems (FSS Code)

Both instruments entered into force on 1 July 2002 under tacit acceptance. The revised chapter is intended to be clear, concise and user-friendly, incorporating the substantial changes introduced in recent years following a number of serious fire casualties. The revised chapter includes seven parts, each including requirements applicable to all or specified ship types, while the Fire Safety Systems (FSS) Code, which is made mandatory under the new chapter, includes detailed specifications for fire safety systems in 15 Chapters.

Prohibition of installation of materials containing asbestos

A new regulation 3-5 in SOLAS Chapter II-1 (Construction – Structure, subdivision and stability, machinery and electrical installations), which entered into force on 1 July 2002 prohibits the new installation of materials which contain asbestos on all ships. The regulation states that for all ships, new installation of materials which contain asbestos shall be prohibited except for vanes used in rotary vane compressors and rotary vane vacuum pumps, watertight joints and linings used for the circulation of fluids when, at high temperature or pressure there is a risk of fire, corrosion or toxicity, and supple and flexible thermal insulation assemblies used for temperatures above 1000°C.

Elimination of sub-standard oil tankers

An MSC Working Group developed a proposed list of measures to eliminate sub-standard ships, and the MSC agreed to refer the list of measures to the Organization's Sub-committees and to the Marine Environment Protection Committee (MEPC), for general consideration. This work aligns with agreement reached in the MEPC in April 2001 to amend MARPOL to accelerate the phase-out schedule for single-hull oil tankers.

Ships operating in ice-covered waters

The MSC is in the process of developing guidelines for ships operating in ice-covered waters.

3 MANNING OF SHIPS

As in the case of construction and equipment, UNCLOS provides in article 94(3)(b), that every State shall take the necessary measures to ensure safety at sea on the high seas with regard to "the manning of ships, labour conditions and the training of crews, taking into account the applicable international instruments". Paragraph 4(b) specifies that such measures shall ensure "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". Paragraph 4(c) further requires "that the master, officer 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". Also in connection with these matters, paragraph 5 states that "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". This obligation also applies in the EEZ. Article 217(2) of UNCLOS extends the scope of article 94(3) to the protection of the marine environment. It requires the flag State to ensure that its vessels are prohibited from sailing until they can proceed to sea in compliance with the requirements of international rules and standards with regard to manning.

Article 21(2) also provides that the coastal State cannot impose on foreign ships in innocent passage in its territorial sea laws and regulations applicable to manning "unless they are giving effect to generally acceptable international rules or standards". Article 211(6)(c) provides that the additional laws and regulations which the coastal State may adopt for special areas in the EEZ shall not require foreign vessels to observe manning standards other than generally accepted international rules and standards.

SOLAS 1974, as amended, imposes a general obligation on flag States to ensure, for the purpose of safety of life at sea, the appropriate manning of the ship. Thus, ships shall be provided with an appropriate certificate as evidence of the minimum safe manning required (see regulation V/14).

STCW 1978, as amended, contains a comprehensive set of international regulations with regard to training and certification of personnel. This Convention establishes minimum requirements for training, qualifications and seagoing service for masters and officers and for certain categories of ratings, such as those forming part of a navigational watch, engine-room watch, on oil, chemical or liquefied gas tankers, and passenger ships.

STCW 1978 was revised at a Conference of States Parties held in 1995. The amendments adopted on that occasion addressed the concerns that the STCW Convention was not uniformly applied and did not impose any strict obligations on Parties regarding implementation. They also generally brought the STCW Convention up to date. One of the major features of the revision involved the adoption of a new STCW Code to which the whole content of the technical regulations was transferred. Part A of the Code is mandatory, while part B is recommendatory. Further, enhanced procedures concerning the exercise of port State control under article X of the STCW 1978 Convention were developed. In addition, the Conference amended chapter I of the STCW Convention entitled General Provisions. Accordingly, State Parties must provide information to IMO concerning the implementation of the Convention's requirements. The Maritime Safety Committee of IMO (MSC) uses this information to identify Parties that are able to demonstrate that they have given full and complete effect to the Convention (ie. the so-called 'IMO White List' which was first issued by the MSC at its seventy-third session in December 2000 and supplemented at its seventy-fourth session in May 2001). The publication of this list marks the end of the first stage of a ground-breaking verification procedure in which, for the first time, IMO has been given a direct role in the implementation of one of its instruments. Finally, the amendments also provided for special conditions for the training and qualifications of personnel on board ro-ro passenger ships. The STCW Convention was further amended in 1997 to add training requirements for personnel on passenger ships other than ro-ro passenger ships, and in 1998 to add a requirement for masters and deck officers to be capable of detecting damage and corrosion in cargo spaces and ballast tanks.

A separate Conference running concurrently with the 1995 STCW Conference adopted a new International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel. This Convention represents the first attempt to make safety standards mandatory for the crews of fishing vessels.

In November 1999, the IMO Assembly adopted resolution A.892(21) on Unlawful practices associated with certificates of competency and endorsements. This resolution was intended to highlight the problem of fraudulent certificates issued in relation to the STCW Convention, and to encourage action by Member States to eliminate the circulation of such certificates. Research has been being conducted on behalf of IMO to assess the scope of the problem and to identify possible solutions. The results of this research have been brought to the attention of MSC and will be considered in more detail by the Subcommittee on Standards of Training and Watchkeeping (STW).

Also in November 1999, the IMO Assembly adopted a new resolution on Principles of Safe Manning, which updates and supercedes resolution on the same subject from 1981 (A.481(XII)). The new resolution is intended to take into account recent developments in the shipping industry, including increased reliance on automated systems and labour-saving devices, and the concern for fatigue and other human elements issues in crew performance. The resolution includes basic principles to be applied when considering manning levels in order to ensure the safe operation of the ship.

Each ship should be issued with a "minimum safe manning document", specifying the minimum safe manning levels for that particular ship. The document can then be produced for inspection during port State control.

The resolution includes detailed guidelines for the application of principles of safe manning and guidance on contents of the minimum safe manning document as well as a model format.

4 SIGNALS, COMMUNICATIONS AND PREVENTION OF COLLISIONS

To ensure safety on the high seas and in the EEZ, the flag State, in its exercise of jurisdiction, shall take measures, as appropriate, with regard to "the use of signals, the maintenance of communications and the prevention of collisions" (articles 94(3)(c) and 58(2)). These measures shall conform to "generally accepted international regulations, procedures and practices, and each State is required to take the necessary steps to secure their observance" (article 94(5)). A broad range of standards concerning signals, communications and prevention of collisions has been developed by the MSC and approved by the relevant body within the framework of treaty instruments or recommendations. The following paragraphs refer to the provisions included in IMO instruments which are related to the subject matter mentioned in article 94(3)(c) of UNCLOS.

Rules on signals

Rules and regulations on signals are found in SOLAS 1974 and COLREG 1972. Under SOLAS regulation V/21, all ships required to carry radio installations shall carry the International Code of Signals. Any other ship which, in the opinion of the Administration, has a need to use it, shall carry it as well. This Code was adopted by the fourth session of the IMO Assembly in 1965, and has since been amended by the MSC on a number of occasions.

Regulations on communications

Rules on communications for safety purposes are contained in chapter IV of SOLAS 74, which deals with the provision of radiocommunication services by Contracting Governments and provides for equipment on board ships for distress and safety as well as for general radiocommunications. Specific radio technical requirements of equipment for these purposes are defined in the Radio Regulations of the International Telecommunication Union. As a result of amendments to Chapter IV which were adopted in 1988 (with a phase-in period to 1999, the Global Maritime Distress and Safety System (GMDSS) became fully effective on 1 February 1999. GMDSS is a worldwide satellite-based network of automated emergency communications for ships at sea. (In part, GMDSS provides for the implementation of article 39.3 of UNCLOS.)

Rules on communications are also contained in chapter V of SOLAS, as amended, particularly in regulations 31 and 32 on danger messages and in regulation V/9 on meteorological services.

At its twenty-second session in November 2001, the Assembly adopted resolution A.918(22) on Standard Marine Communication Phrases.

Regulations for the prevention of collisions at sea

Regulations for the prevention of collisions at sea are found in COLREG 1972, which deals with steering and sailing rules, lights and shapes, and sound and light signals. COLREG also regulates the behaviour of ships operating in or near traffic separation schemes. Within the general framework established by the provisions of UNCLOS, COLREG applies to the high seas, the EEZ, the territorial sea and straits used for international navigation. However, rule 1(a) of COLREG provides that the rules apply to "all vessels upon the high seas and in all waters connected therewith navigable by seagoing vessels".

At its twenty-second session, the Assembly adopted resolution A.910(22) by which it adopted amendments to the Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREG). The amendments concern:

- whistles and sound signals (Rules 33 and 35);
- action to avoid collision (Rule 8 (a)) - to make it clear that any action to avoid collision should be taken in accordance with the relevant rules in the COLREGs;
- amendments with respect to high-speed craft (relating to the vertical separation of masthead lights); and
- amendments with relation to Wing-In-Ground (WIG) craft, to include a rule that WIG craft should keep well clear of all other vessels and another rule that WIG craft should exhibit a high-intensity all-round flashing red light when taking off, landing and in-flight near the surface.

UNCLOS requires foreign ships to comply with these regulations while navigating in the territorial sea, in straits used for international navigation, and in archipelagic waters. In this regard the Convention provides that "generally accepted international regulations relating to the prevention of collisions at sea" shall also apply to foreign ships exercising the right of innocent passage through the territorial sea and archipelagic waters (articles 21(4) and 52(1)). In accordance with article 39(2)(a) and article 54, ships exercising the right of transit passage in straits used for international navigation or the right of archipelagic sea lanes passage, must comply with the International Regulations for Preventing Collisions at Sea.

5 SHIPS' ROUTEING

Territorial sea

In accordance with UNCLOS, article 22, the coastal State may:

- designate sea lanes and prescribe traffic separation schemes for the regulation of the innocent passage of ships through its territorial sea, where necessary having regard to the safety of navigation (article 22(1));
- require tankers, nuclear powered ships and ships carrying nuclear or other inherently dangerous or noxious substances or materials to confine their passage to such sea lanes (article 22(2)).

In accordance with article 22(3)(a), coastal States must, in the designation of sea lanes and the prescription of traffic separation schemes, "take into account", *inter alia*, the recommendations of the competent international organization" (IMO). In the case of sea lanes, IMO's relevant provisions are contained in SOLAS regulation V/8, amended in 1995 and the IMO General Provisions on Ships' Routeing adopted by resolution A.572(14) of the IMO Assembly. Provisions on traffic separation schemes (TSS) are contained in COLREG, rules 1(d) and 10. (In November 1997, the IMO Assembly adopted resolution A.858(20) by which it delegated to MSC the function of adopting traffic separation schemes, and routeing measures other than traffic separation schemes, including the designation and substitution of archipelagic sea lanes.)

SOLAS regulation V/8(j) (see V/10 in the text as amended by MSC in 2000) states that "all adopted ships' routeing systems and actions taken to enforce compliance with those systems shall be consistent with international law, including the relevant provisions of the 1982 United Nations Convention on the Law of the Sea". Bearing in mind the terms of article 22(3)(a) of UNCLOS, regulation V/8 establishes that ships' routeing systems "are recommended for use by, and may be made mandatory for, all ships, certain categories of ships or ships carrying certain cargoes, when adopted and implemented in accordance with the guidelines and criteria developed by the

Organization" (IMO). These provisions of UNCLOS and SOLAS and the classes of ships referred to in article 22(2) of UNCLOS are relevant in connection with the work undertaken by IMO and the International Atomic Energy Agency (IAEA) to review the conditions of transport by sea of radioactive material from a safety point of view.

Paragraph (d) of regulation V/8 (see V/10 in the text as amended by MSC 73 in 2000) acknowledges that the initiation of action for establishing a ships' routeing system is the responsibility of the Governments or Government concerned, which should take into account the guidelines and criteria developed by IMO.

Rules 1(d) and 10 of COLREG define, respectively, the competence of IMO to adopt TSS and the main technical regulations to be followed in this regard. These regulations effectively institute restrictions on navigation in order to ensure safety.

The IMO General Provisions on ships' routeing contain conditions for the adoption of routeing measures applicable not only to the territorial sea but also to the EEZ, straits and archipelagic waters. In accordance with paragraph 3.4 of the Guidelines,

"IMO shall not adopt or amend any routeing system without the agreement of the interested coastal State, where that system may affect:

- .1 their rights and practices in respect of the exploitation of living and mineral resources;
- .2 the environment, traffic pattern or established routeing systems in the waters concerned;
- .3 demands for improvements or adjustments in the navigational aids or hydrographic surveys in the waters concerned."

In direct reference to the case of the territorial sea (paragraphs 3.14 to 3.16), 3.16 recommend that Governments establishing routeing systems, "no parts of which lie beyond their territorial seas" (3.14) should design them in accordance with the criteria established by IMO and submit them to IMO for adoption. Paragraphs 3.15 and 3.16 apply to cases where "for whatever reason" a Government decides not to submit to IMO a routeing system. In such cases Governments should, in promulgating the routeing system to mariners, ensure that there are clear indications on charts and in nautical publications as to what rules apply.

Straits used for international navigation

In the same way as the coastal State has authority within the territorial sea, States bordering straits are entitled to designate sea lanes and traffic separation schemes or, as appropriate, substitute them in order to promote the safe passage of ships in straits used for international navigation (article 41(1) and (2)). While in the case of the territorial sea coastal States are simply required to "take into account" the recommendations of IMO, the implementation of these regulations is made mandatory in the case of States bordering straits. In accordance with the Convention, sea lanes and traffic separation schemes in straits used for international navigation "shall conform to generally accepted international regulations" (article 41(3)). IMO regulations to be considered in this regard are contained in SOLAS (regulation V/8) for routeing measures other than TSS, COLREG 1972 (rules 1(d) and 10) for TSS and the IMO General Provisions on ships' routeing contained in resolution A.572(14), as amended.

UNCLOS further establishes that States bordering straits must present the proposals for the designation of sea lanes and the prescription of TSS, and their substitution, to the competent international organization (IMO), with a view to their adoption (article 41(4)). States bordering

straits may enforce TSS and regulations establishing sea lanes only after they have been formally adopted by IMO. However, IMO is empowered to adopt them only if agreed with the States concerned (article 41(4)). Sea lanes and TSS established under article 41 are mandatory for ships in transit passage (article 41(7)).

Article 35(c) of UNCLOS establishes that its provisions for straits used for international navigation do not affect "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". This provision should be borne in mind in connection with paragraph (k) of SOLAS regulation V/8:

"Nothing in this regulation nor its associated guidelines and criteria shall prejudice the rights and duties of Governments under international law or the legal regime of international straits".

With respect to sea lanes and traffic separation schemes through the waters of two or more States bordering straits, the States concerned are required to co-operate in formulating proposals in consultation with "the competent international organization" (IMO) (article 41(5)). SOLAS regulation V/8(f) requires States to formulate joint proposals on the basis of an agreement between them which would be disseminated to the Governments concerned. It is also worth emphasizing that in the case of straits which are excluded from the regime of transit passage by virtue of article 38 of UNCLOS, or straits which lie between a part of the high seas or an EEZ and the territorial sea of a foreign State, the regime of innocent passage applies (article 45).

Archipelagic waters

Several paragraphs of article 53 of UNCLOS regulate the right of archipelagic States to establish sea lanes and TSS, and refer to the role of IMO in this connection:

- Archipelagic States may designate sea lanes suitable for the continuous and expeditious passage of foreign ships through its archipelagic waters and the adjacent territorial sea, and prescribe traffic separation schemes for the purpose of safety of navigation through narrow channels in such sea lanes (paragraphs 1 and 6).
- As in the case of transit passage in straits used for international navigation, sea lanes and TSS within archipelagic waters must conform to "generally accepted international regulations" (paragraph 8).
- Archipelagic States shall submit the proposals - including those substituting sea lanes and TSS - to the "competent international organization" (IMO) for their adoption. Proposals may be adopted by IMO only upon agreement with the archipelagic State concerned. Only after adoption by IMO may sea lanes or TSS be designated, prescribed or substituted (paragraph 9).
- Clear indication shall be provided of the sea lanes and TSS on charts, to which due publicity must be given (paragraph 10).
- Established sea lanes and traffic separation schemes must be respected by ships in archipelagic sea lanes passage (paragraph 11).

In November 1997, the IMO Assembly adopted resolution A.858(20) by which it delegated to MSC the function of adopting traffic separation schemes, and routing measures other than traffic separation schemes, including the designation and substitution of archipelagic sea lanes. In 1998, the MSC adopted a partial designation of archipelagic sea lanes based on a proposal by Indonesia (SN/Circ.200).

EEZ

UNCLOS has no provisions concerning the designation of sea lanes and TSS for the purpose of safety of navigation in the EEZ or on the high seas. Nevertheless, bearing in mind IMO's global mandate, the IMO General Provisions on Ships' Routeing (resolution A.572(14)) contain provisions which can be applied for the adoption of routeing measures beyond the territorial sea. In accordance with paragraph 3.8 a Government proposing a new routeing system or an amendment to an adopted routeing system "any part of which lies beyond its territorial sea should consult IMO so that such system may be adopted or amended by IMO for international use". This provision furthermore recommends that the interested Government should provide all relevant information including, as appropriate, the following additional information:

- .1 the reasons for excluding certain ships of classes of ship from using a routeing system or any part thereof; and
- .2 any alternative routeing measures, if necessary, for ships or certain classes of ship which may be excluded from using a routeing system or parts thereof.

The General Provisions further establish that such a system, when adopted "shall not be amended or suspended before consultation with and agreement by IMO, unless local conditions and the urgency of the case require that earlier action be taken."

Bearing in mind the recommendation in paragraph 3.8 of the General Provisions that proposals for routeing measures beyond the territorial sea should be adopted by IMO, any safety zone established in accordance with article 60(5) of UNCLOS which exceeds 500 metres should be submitted to IMO for adoption.

6 SHIP REPORTING

General principles for ship reporting systems and ship reporting requirements are contained in IMO resolution A.851(20). IMO resolution A.857(20) contains guidelines for establishing vessel traffic services, including guidelines on recruitment, qualifications and training of VTS operators.

During 1992 and 1993 the Legal Committee and an *ad hoc* informal working group reporting to the Committee considered legal issues regarding the adoption of mandatory ship reporting to VTS bearing in mind the basic framework established by UNCLOS. These deliberations paved the way for the adoption of a new SOLAS regulation on mandatory ship reporting.

SOLAS regulation V/8-1 (see V/11 in the text of the amendments adopted by MSC in 2000) enables States to adopt and implement mandatory ship reporting in accordance with guidelines and criteria developed by IMO. The regulation makes it mandatory for ships entering areas covered by ship reporting systems to report in to the coastal authorities giving details of sailing plans. Other information may be also required in the case of certain categories of ships and ships carrying certain cargoes. The regulation also provides that:

- All adopted ship reporting systems shall be consistent with international law, including the relevant provisions of UNCLOS.
- IMO is recognized as the only international body for developing guidelines, criteria and regulations on an international level for ship reporting systems.
- The initiation of action establishing a ship reporting system is the responsibility of the Governments concerned. They should, in principle, refer their proposals to the

Organization. Governments which do not submit ship reporting systems for adoption by the Organization should, wherever possible, try to conform with the guidelines and criteria developed by the Organization. Resolution MSC.43(64) adopted by the Maritime Safety Committee of IMO contains such guidelines and criteria.

- The regulation and its associated guidelines and criteria shall not prejudice the rights and duties of Governments under international law, or the legal regime of international straits.

Bearing in mind the specific nature and features of VTSs, regulation V/8-1(k) (see V/11 in the text of the amendments adopted by MSC in 2000) adds that the participation of ships in accordance with the provisions of adopted ship reporting systems shall be free of charge to the ships concerned.

SOLAS regulation V/8-2 (see V/12 in the text of the amendments adopted by MSC in 2000) deals with vessel traffic services and provides that the use of a VTS may only be made mandatory in sea areas within the territorial sea of a coastal State.

In November 1997, the IMO Assembly adopted resolution A.858(20) by which it delegated to MSC the function of adopting ship reporting systems. MSC established criteria for ship reporting systems in MSC.43(64).

7 PASSENGER SHIPS

At its seventy-second session, the MSC considered a proposal by the Secretary-General of IMO to undertake a global consideration of safety issues pertaining to passenger ships, with particular emphasis on large cruise ships. In response to this proposal, the Committee established a Working Group on Enhancing the Safety of Large Passenger Ships. The aim is to identify the extent to which current regulations should be reviewed, in the light of the sheer size of these vessels and the numbers of persons carried on board, and in particular with regards to emergency situations and seafarer training.

At its seventy-third session of MSC, the Working Group reviewed the current safety regime as it relates to large passenger ships and identified areas of concern relating to:

- the ship - including construction and equipment, evacuation, operation and management;
- the people - including crew, passengers, rescue personnel, training, crisis and crowd management; and
- the environment - including search and rescue services, operation in remote areas and weather conditions.

The MSC endorsed the working group's decision that future large passenger ships should be designed for improved survivability based on the time-honoured philosophy that "a ship is its own best lifeboat". This approach envisages that passengers and crew should normally be able to evacuate to a safe haven on board and stay there. In addition, this philosophy also envisages that a ship should always be able to proceed to port at a minimum safe speed.

To achieve the above philosophies, the group agreed that special design requirements for future large passenger ships would have to be developed to achieve this "safe haven as ship proceeds back to port" philosophy and that the consideration of new concepts would be essential. The group also was of the view that this philosophical approach would address the risks

associated with evacuating and rescuing a large number of survivors by reducing the need to abandon the ship in the first place.

However, notwithstanding the above philosophy, the group recognized that ship abandonment will continue to occur and agreed that future ships should be equipped with effective life-saving equipment and appliances that are designed for survival in the area of operation and take into account the availability of SAR systems.

The MSC endorsed a preliminary work plan as developed by the working group, which includes elements relating to the following areas of concern:

- Collision and grounding
- Equipment failure
- Escape, evacuation and rescue
- Fire safety
- Medical emergency
- Operations and management
- Vessel surveys
- Search and rescue
- Ship survivability
- Evacuation, life-saving systems and arrangements

The correspondence group will work on finalizing the preliminary list of concerns and further developing the philosophical approach, goals and objectives for dealing with matters relating to future large passenger ships. It will also assess how areas of concern should be analysed taking into consideration tools such as formal safety assessment, the human element analyzing process, cost/benefit analysis and risk assessment, with a view to linking these tools to each area of concern.

8 NUCLEAR-POWERED SHIPS AND SHIPS CARRYING DANGEROUS CARGO

Article 22(2) of UNCLOS empowers coastal States to confine the passage of foreign nuclear-powered ships and ships carrying dangerous cargoes in the territorial sea to the sea lanes, which, in accordance with paragraph 1 of the same article, these States are entitled to establish and enforce in respect of ships exercising the right of innocent passage.

The basic precautionary requirements regarding the ships' cargo and structure regulated in article 22(1) and (2) are complemented by article 23, which specifically addresses the case of foreign nuclear-powered ships and ships carrying nuclear or other inherently dangerous and noxious substances. According to article 23, those ships have a duty, upon exercising the right of innocent passage through the territorial sea, to carry the documents and observe the precautionary measures stipulated in "international agreements". Undoubtedly SOLAS is one of these international agreements, in particular its chapter VIII which deals with nuclear ships, and chapter VII which governs the carriage of dangerous goods.

Nuclear ships

According to regulation VIII/10 of SOLAS, a certificate shall be issued to a nuclear ship which complies with the requirements of this Convention. Chapter VIII is supplemented by the Code of Safety for Nuclear Merchant Ships and the Safety Recommendations on the Use of Ports by Nuclear Merchant Ships.

Bearing in mind the risk posed by nuclear merchant ships, SOLAS regulation VIII/11 introduces special measures of control. In addition to the general powers of control conferred upon port States by regulation I/19, regulation VIII/11 provides that nuclear ships "shall be subject to special control before [emphasis added] 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". Accordingly, port States are authorized to enforce control measures in respect of foreign vessels in innocent passage through the territorial sea provided these vessels have clearly shown their intention to enter port.

Dangerous goods

Ships carrying dangerous cargo are subject to chapter VII of SOLAS, which regulates safety measures, including their safe packaging and stowage, applicable to the carriage of dangerous goods by sea. This chapter is supplemented by several IMO codes, namely:

- the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code), made mandatory under SOLAS in accordance with regulation VII/10;
- the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code) (regulation VII/13), made mandatory for Parties to SOLAS in accordance with regulation VII/13;
- the International Maritime Dangerous Goods Code (IMDG Code), adopted by IMO in 1965, which is regularly updated (and see additional relevant discussion below under section 9 on amendments to the IMDG and other IMO Codes);
- the Code for the Safe Carriage of Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes in Flasks on Board Ships (INF Code), applies, in addition to SOLAS and IMDG regulations, to all ships carrying certain high level radioactive material. In resolution A.790(19), the IMO Assembly requested IMO's technical bodies, in consultation with IAEA and UNEP, to continue the review of the INF Code. The review of the INF Code under resolution A.790(19) included questions such as route planning, notification to coastal States, and restriction or exclusion of the ships from particularly sensitive sea areas bearing in mind international conventions in force. A Revised Code was adopted by the MSC at its seventy-first session in May 1999. At the same session, the Committee adopted regulations to make the Code mandatory under SOLAS Chapter VII. These amendments came into force on 1 January 2001.

In view of the importance of its application for the protection of the marine environment the IBC Code has been made also mandatory under MARPOL 73/78.

9 AMENDMENTS TO THE IMDG AND OTHER IMO CODES

An example of the degree to which the comprehensive set of safety regulations on board ships is continuously updated by IMO is the constant review of safety codes. Action taken in this regard by the MSC at its seventy-third session includes the following:

The MSC decided, in principle, to make the International Maritime Dangerous Goods (IMDG) Code mandatory, aiming at an entry-into-force date of 1 January 2004, and instructed the Sub-Committee on Dangerous Goods, Solid Cargoes and Containers at its sixth session in

July 2001 and the Secretariat to prepare relevant documents such as draft amendments to SOLAS.

The MSC agreed that some chapters of the IMDG Code would remain recommendatory in nature – including chapter 1.3 (Training); chapter 2.1 (Explosives - Notes 1 to 4); 2.3.3 of chapter 2.3 (Determination of flashpoint); chapter 3.2 (Columns 15 and 17 of the Dangerous Goods List); chapter 3.5 (Transport Schedules); 5.4.5 of chapter 5.4 (Multimodal dangerous goods form); and chapter 7.3 (Special provisions in the event of an incident and fire precautions involving dangerous goods).

The IMDG Code was introduced by IMO in 1965 as a uniform international code for the transport of dangerous goods by sea covering such matters as packing, container traffic and stowage, with particular reference to the segregation of incompatible substances. At its seventy-second session, the MSC adopted a revised and reformatted IMDG Code, which is intended to be more user-friendly and understandable. Other sets of amendments to IMO Codes approved by the MSC include:

- Amendments to the International Code for the Application of Fire Test Procedures (FTP Code) to add new parts 10 and 11 to annex 1 on tests for fire-restricting material for high-speed craft and tests for fire-resisting divisions of high-speed craft. Entry into force 1 July 2002 under tacit acceptance.
- Amendments to the International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (IBC Code) and the Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (BCH Code) relating to cargo hose requirements, protection of personnel and carriage of carbon disulphide. Entry into force 1 July 2002 under tacit acceptance.
- Amendments to the International Safety Management Code (ISM Code) including the replacement of Chapter 13 (on certification, verification and control) with a new Chapter 13 (on certification) and additional Chapters 14 (Interim certification), 15 (Forms of certificate) and 16 Verification; as well as a new appendix giving forms of documents and certificates. Entry into force 1 July 2002 under tacit acceptance.

Amendments to the Code for the Construction and equipment of ships carrying dangerous chemicals in bulk (BCH Code) relating to ship's cargo hoses, tank vent systems, safety equipment, operational requirements; and amendments to the Code for the construction and equipment of ships carrying liquefied gases in bulk (GC Code) relating to ship's cargo hoses, personnel protection and operating requirements. Entry into force 1 July 2002 under tacit acceptance.

10 OFFSHORE INSTALLATIONS

UNCLOS establishes that in the territorial sea, the coastal State may adopt laws and regulations for the protection of facilities and installations in conformity with the Convention and "other rules of international law" (article 21(1)(b)).

Within the EEZ, the Convention (article 56(b)(i)), establishes the scope of coastal State, jurisdiction regarding the establishment and use of artificial islands, installations and structures. Article 60 of the Convention reaffirms the exclusive right and jurisdiction of coastal States regarding the regulation of the construction, operation and use of offshore facilities. Paragraphs 3 to 7 of the same article address the implications of these activities for the freedom and safety of navigation and regulate the duties of the coastal State in this regard.

Due notice must be given of the construction of offshore facilities and permanent means for giving warning of their presence must be maintained (paragraph 3). 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 (paragraph 4). In accordance with paragraph 7, offshore installations and safety zones around them may not be established where interference may be caused to the use of recognized sea lanes essential to international navigation.

The implications of the establishment of structures and installations in connection with routing systems and traffic separation schemes is considered in resolution A.572(14) on general provisions on ships' routing referred to above. Paragraph 3.10 of the resolution recommends that Governments ensure, as far as practicable, that oil rigs, platforms and other similar structures are not established within routing systems adopted by IMO or near their terminations. If the establishment of these installations cannot be avoided, the traffic separation scheme should be amended temporarily in accordance with guidelines given in section 7 of the same resolution. In the case of the establishment of permanent installations within a traffic separation scheme, permanent amendments to the scheme should, if deemed necessary, be submitted to IMO for adoption. IMO resolution A.671(16) on safety zones and safety of navigation around offshore installations and structures recommends Governments to study the pattern of shipping traffic at an early stage in order to assess potential interference with marine traffic passing close to or through resource exploration areas.

In accordance with article 60(3), any installations or structures which are abandoned or disused should be removed to ensure safety of navigation taking into account any generally accepted international standards established in this regard by the competent international organization. Appropriate publicity shall be given to the depth, position and dimensions of any installations or structures not entirely removed. IMO resolution A.672(16) on guidelines and standards for the removal of offshore installations and structures on the continental shelf and in the exclusive economic zone defines the standards to be followed by the coastal State when making decisions regarding the removal of abandoned or disused installations and structures. Abandoned offshore installations should be removed, except in certain cases. A decision to allow an installation to remain, in whole or in part, on the sea-bed should take into account the circumstances described in the resolution. This instrument also incorporates and extends the requirement under article 60(3) of UNCLOS to provide "appropriate publicity" of the partial removal. According to resolution A.672(16), notification not only of the partial removal but also of the non-removal should be forwarded to IMO. IMO may establish that the publicity requirement takes into account the depth, position and dimension of the installations and structures not entirely removed as provided in article 60(3) of UNCLOS. If the disposal is to be solved by dumping, article III(a)(ii) of the London Convention may apply. In this regard the Eleventh Consultative Meeting of the London Dumping Convention agreed that the draft IMO Guidelines and standards adopted under resolution A.672(16) were incorporated into the Convention.

Article 60(4) of UNCLOS provides that States may, when necessary, establish reasonable safety zones around artificial islands, installations and structures "in which it may take appropriate measures to ensure the safety both of navigation and of the artificial islands installation and structures". Paragraph 5 of the same article establishes that the breadth of these safety zones should be determined by the coastal State taking into account "applicable international standards". In principle this breadth shall not exceed 500 metres, except as authorized by "generally accepted

international standards" or as recommended by the "competent international organization" (IMO). In accordance with article 60(6), ships must respect those safety zones and comply with "generally accepted international standards" concerning navigation in the vicinity of offshore installations and safety zones.

IMO resolution A.671(16) recommends Governments to consider traffic patterns for the assessment of safety zones (recommendation 1(c)). The resolution includes an Annex with specific guidelines for coastal and flag States, bearing in mind the requirement for due notice on the construction of offshore structures and the extent of safety zones established in article 60(5) of the Convention. In this regard the resolution recalls that coastal States are responsible for the dissemination of information concerning the location of offshore installations or structures and the breadth of safety zones around them. This dissemination should take the form of Notices to Mariners, radio warnings, lights and sound signals, etc. (Nos.1 and 4 of the Annex). Permanent installations, structures or safety zones should be shown on all appropriate navigational charts (No.5 of the Annex).

In addition, resolution A.671(16) provides international standards for vessels navigating in the vicinity of offshore installations or structures (No.2 of the Annex), as required by article 60(6) of UNCLOS. The resolution also calls on coastal States to take action against those responsible for infringement of the regulations on safety zones or, at least, to notify flag States, giving detailed evidence of the infringement by their vessels.

In accordance with article 80 of UNCLOS, the provisions of article 60 apply *mutatis mutandis* to artificial islands, installation and structures on the continental shelf.

Mobile offshore units

In November 1999, the IMO Assembly adopted resolution A.891(21) on Recommendations on training of personnel on mobile offshore units (MOUs), which provide an international standard for training of such personnel to ensure levels of safety and protection of the marine environment are complementary to that required under the STCW Convention. The resolution addresses all categories of personnel on MOU's, including the maritime crew, special personnel, and visitors.

11 NAVIGATIONAL AIDS AND FACILITIES

As stated above, the coastal State has legislative jurisdiction over innocent passage through the territorial sea with regard to the protection of navigational aids and facilities and other facilities or installations (article 21(1)(b), UNCLOS). The laws and regulations adopted by the coastal State must conform to the provisions of UNCLOS and "other rules of international law", thereby becoming mandatory for all foreign ships (article 21(4), UNCLOS). The obligation of Contracting Governments to arrange for the establishment and maintenance of navigational aids is contained in SOLAS regulation V/14.

UNCLOS adopted a different approach for the establishment and maintenance of navigational and safety aids in the case of transit passage through straits used for international navigation. Article 43(a) imposes on user States and States bordering straits the obligation to co-operate in establishing and maintaining in a strait necessary navigational and safety aids or other improvements in aid of international navigation. There seems to be no international instrument regulating this co-operation at present. However, if any routeing measures are to be established in straits, paragraph 3.3 of the General Provisions on Ships' Routeing requires that, in deciding whether or not to adopt a routeing measure, IMO will consider whether the aids to navigation are adequate for the purpose of the system. Any action leading to the consideration and adoption of instruments of this kind should be taken by IMO as the competent international organization. Furthermore, the regulation in SOLAS V which obligates contracting governments to arrange for the establishment and

maintenance of aids to navigation (V/14) which they determine are required has been revised and renumbered as V/13 in the amendments adopted by MSC in 2000.

In November 1997, the IMO Assembly adopted resolution A.860(2) on Maritime Policy for a Future Global Navigation Satellite System (GNSS) and set out the requirements for such a system, including control by an international civil organization. The system should provide ships with navigational position-fixing throughout the world for general navigation, including navigation in harbour entrances and approaches and other waters in which navigation is restricted. (A revision to this policy was approved by the MSC at its 73rd session as a draft Assembly resolution which will be submitted to the 22nd Assembly in 2001.)

12 OTHER ISSUES

Flag States may take other measures to ensure safety in the EEZ and on the high seas, as the enumeration under article 94(3) of UNCLOS is not exhaustive (this article uses the expression *inter alia*). In that event, such measures will be required to conform with "generally accepted international regulations, procedures and practices" (articles 94(5) and 58(2)). In this regard, reference may be made to resolution A.773(18) on enhancement of safety of life at sea by the prevention and suppression of unsafe practices associated with alien smuggling by ships.

13 RULES ON ASSISTANCE

Duty to render assistance

On the high seas and in the EEZ, as appropriate and in accordance with article 98 of UNCLOS, every State must require the master of a ship flying its flag, in so far as he can do so without danger to the ship, the crew, or the passengers, to:

- render assistance to any person found at sea in danger of being lost (para.1(a));
- proceed to the rescue of persons in distress, when necessary (para.1(b)); and
- after a collision, to render assistance to the other ship, its crew and its passengers (para.1(c)).

The obligations to render assistance and to proceed to the rescue of persons in distress is contained in two IMO treaty instruments. SOLAS stipulates the general obligation of the master of a ship to proceed, where necessary, with all speed to the assistance of a ship, aircraft, or survival craft in distress (regulation V/10, re-numbered as V/33 in the amendments adopted in 2000). The 1989 International Convention on Salvage in article 10 lays down the duty of a ship's master to render assistance to any person at sea in danger of being lost. It further requires States Parties to adopt the necessary measures to enforce this duty.

Under articles 18(2), 45 and 52 of UNCLOS a ship may stop and anchor in the territorial sea of another State if it is necessary for the purpose of rendering assistance to persons or aircraft in danger or distress. Ships in transit passage through straits used for international navigation or in archipelagic sea lanes passage are allowed to stop in cases of distress (articles 39(1)(c) and 54). It may be noted that article 39(3) also has relevance to the search and rescue issues which fall within the competence of IMO (e.g., IAMSAR/GMDSS).

Search and rescue services

UNCLOS requires coastal States to promote, through regional co-operation if necessary, the establishment, operation, and maintenance of a search and rescue service for safety at sea (article 98(2)). SOLAS stipulates the obligation of the master of a ship to proceed, where necessary, with all speed to the assistance of a ship, aircraft, or survival craft in distress (regulation V/10, re-numbered as V/33 in the amendments adopted in 2000). Furthermore SOLAS regulation V/15 (re-numbered as V/7 in the amendments adopted in 2000) obliges State Parties to undertake the necessary arrangements for coast watching and the rescue of persons in distress around its coasts.

The specific legal framework of obligations relating to search and rescue is established in the International Convention on Maritime Search and Rescue, 1979 (SAR). This Convention requires State Parties to establish services for search and rescue of persons in distress, though limited to the area around the coasts (rule 2.1.1). For this purpose, SAR includes regulations for the establishment of search and rescue regions within which the coastal State is responsible for the provision of search and rescue services. Parties to SAR should co-ordinate their search and rescue services with those of neighbouring States. Unless otherwise agreed between the States concerned, Parties should authorize immediate entry over their territorial sea or territory of rescue units of other Parties solely for the purpose of searching for the position of maritime casualties and rescuing the survivors of such casualties. In such cases the State requesting entry shall transmit to the coastal State full details of the projected mission and the need for it (SAR, chapter 3, 3.1.2 and 3.1.3). SAR regulation 2.1.7 contains a proviso of paramount importance according to which the delimitation of search and rescue regions "shall not prejudice the delimitation of any boundary between States."

Following the entry into force of the SAR Convention, the world's seas were divided into 13 SAR regions. In most of them provisional SAR plans in line with the requirements of the Convention have been developed. At present, provisional SAR plans are still to be completed in the Western South Atlantic, Eastern North Pacific, Eastern South Pacific and Mediterranean and Black Seas regions.

Refugees and asylum seekers

At its twenty-second session, the IMO Assembly adopted Resolution A.920(22) on the *review of measures and procedures for the treatment of persons rescued at sea*. The resolution requests IMO bodies to review all relevant IMO instruments to identify any existing gaps, inconsistencies, ambiguities, vagueness or other inadequacies, so that appropriate action can be taken. Work in this area is continuing in cooperation and coordination with other international organizations including the United Nations High Commissioner for Refugees (UNHCR), the United Nations Office for Drug Control and Crime Prevention (ODCCP), the Office of the High Commissioner for Human Rights (OHCHR), and the International Organization for Migration (IOM).

IMO Assembly Resolution A.867(20), on combating unsafe practices associated with the trafficking of migrants by sea, notes with concern the incidents involving the loss of life resulting from the use of substandard ships for transport of migrants. The Resolution invites Governments to cooperate and increase their efforts to suppress these unsafe practices. Following the adoption of this resolution, the MSC approved MSC/Circ.896 on Interim measures to prevent and suppress unsafe practices associated with the trafficking or transport of migrants by sea.

14 MARINE CASUALTY INVESTIGATIONS

Article 94(7) of UNCLOS provides that the flag State has the duty to conduct an investigation into every marine casualty or incident of navigation on the high seas involving a ship flying its flag. This duty applies if the casualty has caused loss of life or serious personal injury, or serious damage

to ships, installations, or the marine environment. The investigation is to be held by, or before, suitably qualified persons. UNCLOS requires the flag State and the other State involved to co-operate in conducting the investigation. Provisions on penal jurisdiction in matters of collision or any other incident of navigation are contained in article 97 of the Convention. By virtue of article 58(2) of the Convention, articles 94(7) and 97 apply also to marine casualties in the EEZ. While the English text of UNCLOS uses the expressions "marine casualty" in article 94 and "maritime casualty" in article 221, they are probably intended to mean the same thing, since all other language texts of the Convention use the same expression in both articles.

Article 97(2) provides that in disciplinary matters, "the State which has issued a master 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." This provision should be considered when maritime administrations take decisions on withdrawal of certificates issued according to STCW.

The obligation of the flag State to conduct an investigation of any casualty occurring to any of its ships is contained in SOLAS regulation I/21, LOAD LINES, article 23, and MARPOL, article 12. However, these provisions regulate the duty to investigate only for the purpose of determining the need for any changes to each of these treaties and accordingly include the requirement that Parties provide IMO with appropriate information. Resolutions A.849(20) and A.884(21) elaborate extensively on the duties regulated in UNCLOS for States to co-operate in conducting an inquiry. Resolution A.849(20) notes that the relevant articles of UNCLOS reflect an established international determination to achieve greater investigative co-operation between States, and recommends States to implement the proposed procedures for the conduct of maritime investigations into maritime safety and/or environmental protection. These procedures are set out in the Code for the Investigation of Marine Casualties and Incidents, including the procedures for consultation, co-ordination, and co-operation in conducting an investigation between flag States and other States having a substantial interest in a maritime casualty. This Code was amended by resolution A.884(21) to include guidelines for the investigation of human factors in marine casualties and incidents.

The Long-Term Work Plan of IMO, recognizing the importance of maritime casualty investigation, includes items such as the role of the human element, casualty statistics and investigations, safe evacuation, and survival and recovery following maritime casualties.

15 ILLICIT ACTS

Several provisions in UNCLOS establish conditions for co-operation among States to suppress illicit acts such as piracy or drug-trafficking.

Piracy

In articles 100 to 107 the Convention reaffirms the duty and the obligation of every State to act against piracy. The definitions of piracy and pirate ship, the seizure of a pirate ship, and the liability for seizure are the main elements in those provisions that may be of interest to IMO. Articles 110 (on the right of warships to visit a foreign ship on the high seas) and 111 (on the right of hot pursuit) provides a legal basis for responding to attempted acts of piracy.

Some areas of the oceans are still affected by a disturbing number of acts of piracy, giving rise to grave danger to life and to severe navigational and environmental risks. In this connection and mindful of the duty of the States to co-operate in the repression of piracy as stipulated in article 100 of UNCLOS, IMO has adopted among others resolution A.738(18) on measures to prevent and suppress piracy and armed robbery against ships. The resolution empowers the Maritime Safety Committee to keep under continuous review this issue, which has accordingly been included in the Long-Term Work Plan. As a result, the IMO Secretariat circulates monthly reports on piracy and

armed robbery against ships, and on stowaway cases and illegal migrants, and has explored ways to maintain pressure against all forms of unlawful acts at sea. IMO is also actively promoting regional cooperation in combating piracy through a series of regional meetings and seminars. Additionally, Assembly Resolution (A.922(22)) provides a Code of Practice for the Investigation of the Crimes of Piracy and Armed Robbery against Ships and Resolution A.923(22) prescribes Measures to Prevent the Registration of "Phantom" Ships.

Illicit drug-trafficking

UNCLOS (article 108) imposes upon States the duty to co-operate in the suppression of illicit drug-trafficking engaged in by ships on the high seas and in the EEZ. The problem of drug-trafficking has been considered by IMO within the scope of the amendments introduced in 1990 to the 1965 Convention on Facilitation of International Maritime Traffic (FAL). The standards and recommended practices adopted by FAL are addressed to the public authorities of the Contracting Governments but are applicable only within the jurisdiction of the port State. Consideration could thus be given as to whether IMO should address the issue of drug-trafficking beyond the jurisdictional scope of the port State, bearing in mind article 108 of UNCLOS and article 17 of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988. The latter deals with co-operation among parties under authorization of the flag State to search and board vessels engaged in such illicit traffic. It further provides that, if evidence of involvement in illicit traffic is found, appropriate action can be taken with respect to the vessel, persons, and cargo on board.

IMO Assembly Resolution A.872(20) provides guidelines for the prevention and suppression of the smuggling of drugs, psychotropic substances and precursor chemicals on ships engaged in international maritime traffic.

Terrorism

A variety of acts of terrorism have also threatened the safety of ships and the security of their passengers and crews. IMO has addressed the request of the General Assembly of the United Nations to contribute to the progressive elimination of international terrorism. The Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, 1988 and the Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf, 1988, (SUA Convention and Protocol) deal with unlawful acts beyond the territorial sea that fall outside the crime of piracy as defined in article 101 of UNCLOS.

The terrorist attacks on the United States of America of 11 September 2001 triggered off a concerted response from the IMO reflected in IMO Assembly resolution A.924(22) on review of measures and procedures to prevent acts of terrorism which threaten the security of passengers and crews and the safety of ships. In the resolution the Assembly request the revision of legal and technical measures and consider new ones to prevent and suppress terrorism against ships and to improve security aboard and ashore, in order to reduce the risk to passengers, crews and port personnel on board ships and in port areas and to the vessels and their cargoes.

In response to Resolution A. 924(22) the Legal Committee of IMO began a comprehensive review of the SUA treaties and a completely new regulatory safety regime designed to prevent ships and their cargoes becoming the targets of terrorist activities will be considered at a Diplomatic Conference to be held in December 2002. The new measures are centred around a proposed International Ship and Port Facility Security Code part of which will be made mandatory through amendments to SOLAS 74. The Code provides the framework for co-operation between Governments, Government agencies, local administrations and the shipping and port industries to detect security threats and take preventive measures against security incidents affecting ships or port facilities used in international trade.

Stowaways

Resolution (A.871(20) of the IMO Assembly contains Guidelines on the Allocation of Responsibilities to Seek the Successful Resolution of Stowaway Cases. These guidelines acknowledge that legislation in this area is different from country to country, but establishes some basic common principles based on close cooperation between shipowners and port authorities.

CHAPTER II

PREVENTION AND CONTROL OF MARINE POLLUTION

GENERAL

Article 1 of UNCLOS includes definitions of pollution of the marine environment and dumping. Several other articles refer in general to the rights and obligations of States related to the protection and preservation of the marine environment and the prevention of marine pollution in the high seas, the EEZ and the territorial sea. These provisions should be read together with those included in part XII, which deals exclusively with the protection and preservation of the marine environment from different sources of pollution. IMO has a mandate as the competent international organization to adopt rules and standards relating to pollution from vessels and pollution by dumping.

Several IMO safety instruments include provisions which also aim at preventing and controlling pollution hazards posed by maritime accidents involving ships. In these provisions the management of safety and pollution risks are interconnected.

Other IMO instruments exclusively regulate antipollution measures, irrespective of whether the introduction of polluting substances into the sea is the result of an accident involving a ship or from the operational discharges from vessels. In this regard, the following instruments should be noted:

- the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL);
- the International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990 (OPRC);
- the International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969 (Intervention Convention); and
- the Protocol relating to Intervention on the High Seas in Cases of Marine Pollution by Substances other than Oil, 1973 (Intervention Protocol).

In the case of MARPOL, compliance with the requirement of general acceptance of the antipollution rules and standards established in the Convention is shown by the fact that 121 States representing over 96% of the world's merchant fleet are Parties to this Convention and implement its two mandatory Annexes I and II (pollution by oil and noxious liquid substances). Annexes III, IV (not yet in force), V, and VI (not yet in force) are optional. So far, these Annexes have been accepted, respectively, by 104, 87, 108, and 6 States representing approximately 83%, 47%, 89% and 25% of the world's tonnage.

In May 2001, the IMO Marine Environment Protection Committee (MEPC) adopted amendments to MARPOL which will have the effect of accelerating the phasing out of single hull tankers. This amendment entered into force on 1 September 2002.

Sixty-six States representing almost 54% of the world tonnage have become Parties to the OPRC Convention.

Seventy-seven States representing 71% of the world tonnage are Party to the Intervention Convention and 44 States representing 45% have become Parties to its Protocol.

Prevention and control of pollution by dumping is regulated in two treaty instruments:

- the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (LC or London Convention); and
- the Protocol of 1996 to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (1996 LC Protocol).

Seventy-eight States are Parties to the London Convention. The 1996 LC Protocol is not yet in force.

An International Convention on the Control of Harmful Anti-fouling systems (which is intended to phase out the use of hull coatings which pose a risk of toxicity to marine organisms) was adopted in October 2001. The MEPC is currently developing a draft International Convention for the Control and Management of Ships' Ballast Water and Sediments (which is intended to control the transfer of harmful aquatic organisms and pathogens from the uncontrolled discharge of ballast water and sediments from ships).

Anti-pollution measures are also the subject of several IMO Assembly resolutions.

Taking into account article 195 of UNCLOS, MEPC is considering IMO's role regarding the scrapping of ships or ship recycling, with the intention of reducing pollution from ships in connection with such recycling, and reducing the risk to human health at the recycling yards. This is a process involving the International Labour Organization (ILO), the Basel Convention under UNEP, and IMO. In the first instance, MEPC is aiming at development of guidance for shipowners regarding ship recycling, in the form of a draft resolution for submission to the IMO Assembly in 2003.

As already indicated in the introductory part to this document, IMO's anti-pollution treaties should be applied bearing in mind the criteria of compatibility established in article 237 of UNCLOS, which refers to obligations under other conventions on the protection and preservation of the marine environment. Paragraph 1 of article 237 establishes that provisions included in part XII are without prejudice to the specific obligations contained in previously concluded treaties; paragraph 2 provides that these treaties should be implemented in accordance with the general principles and objectives of UNCLOS. The application of the criteria of compatibility is specially important in connection with the implementation of MARPOL and the London Convention, the two main treaties regulating prevention of pollution from vessels and from dumping which were adopted years before UNCLOS.

Similar to those provisions related to IMO activities in other parts of UNCLOS, several articles in part XII include references to general rules and standards, namely the operative provisions included not in UNCLOS but in IMO instruments. In some cases, however, UNCLOS contains regulations which are themselves of an operative kind and can accordingly be implemented in a way similar to IMO rules and standards. One such example is to be found in the provisions on enforcement of port State jurisdiction and another on the adoption of special mandatory measures for certain areas. Such subjects are regulated by both UNCLOS and MARPOL. Provisions in the two

treaties therefore complement each other and should be read together in order to ensure proper and uniform implementation.

Article 9(3) of MARPOL requires that jurisdiction be construed in light of international law in force at the time of application or interpretation of MARPOL. Such international law, as set forth in UNCLOS, describes the circumstances, safeguards, and geographical zones of coastal, flag and port State jurisdiction, among other things. Thus, for many Parties to MARPOL, international law influences the enforcement of MARPOL. For ease of reference, MARPOL provisions which are complementary to or require interpretation in light of provisions of UNCLOS are contained in the following table:

MARPOL Section	UNCLOS Section
1(1)	94, 217(1)
4(2)	21(1), 56(1)(B), 211, 220, 228, 231
4(3)	217(7)
5	217(3)
5(2)	217(2)
6	218
7	226(1), 232
9(3)	91, 217, 220, 218
10	287

A VESSEL-SOURCE POLLUTION

1 GENERAL FRAMEWORK

Article 211(1) of UNCLOS lays down a general obligation for States, acting through the competent international organization (IMO) or general diplomatic conference, to establish international rules and standards regarding vessel-sourced pollution, and to re-examine them from time to time as necessary. As mentioned above, the main IMO treaty in this area is MARPOL. Article 2(2) and (3) of MARPOL includes a definition of "harmful substances" which is entirely compatible with the definition of "pollution of the marine environment" included in article 1(4) of UNCLOS. Both definitions refer to the introduction of substances into the marine environment which results or can result in hazards to human health, harm to resources and hindrance to legitimate uses of the sea. While the definition included in UNCLOS applies to all sources of marine pollution, MARPOL deals only with pollution from vessels and accordingly includes a definition of "discharges" from ships.

In principle, MARPOL deals with operational discharges of harmful substances, namely, those discharges related to the normal operation of ships. Six technical annexes regulate preventive measures regarding five main categories of substances, namely, Oil (Annex I), Noxious Liquid Substances in Bulk (Annex II), Harmful Substances Carried by Sea in Packaged Forms (Annex III), Sewage (Annex IV), Garbage (Annex V), and Air Pollution (Annex VI). The Convention includes a Protocol concerning Reports on Incidents Involving Harmful Substances, which apply to incidents resulting from operational discharges as well as from accidents involving a ship.

In 1997, a Conference of Parties to MARPOL adopted the Protocol of 1997 to amend MARPOL by adding a new Annex VI with Regulations for the Prevention of Air Pollution from Ships. Six countries have ratified this instrument; but fifteen countries representing not less than 50 of the gross tonnage of the world's merchant shipping must become Parties to this Protocol before it can come into force.

Interrelation between flag, port and coastal State jurisdiction

As in the case of IMO safety instruments, the enforcement of MARPOL relies primarily on the exercise of flag State jurisdiction regarding the features of construction, design, equipment and manning of ships. MARPOL also includes regulations relating to the inspection of foreign ships voluntarily in port to ensure that they comply with antipollution rules and standards and to prevent the ship from sailing if these requirements are not met. Furthermore, MARPOL entitles port States to institute proceedings in accordance with their law. Provisions on the institution of proceedings in this regard should be read together with the regulations included in article 228 of UNCLOS.

Regulations contained in UNCLOS and MARPOL on the exercise of flag and port State jurisdiction should be related to the provisions of UNCLOS dealing with the exercise of coastal State jurisdiction in connection with the enforcement of antipollution measures. These provisions regulate the institution of proceedings for violations in respect of foreign ships navigating the jurisdictional waters of the coastal State without voluntarily entering its ports or the port of another State.

Safeguards in connection with proceedings instituted in respect of foreign ships

Section 7 of part XII of UNCLOS contains several provisions which regulate the enforcement powers of both port and coastal States *vis-à-vis* flag States in connection with the institution of proceedings against foreign ships.

Article 225 of UNCLOS provides that States, when exercising measures of enforcement against foreign vessels, shall not endanger the safety of navigation or otherwise create any hazard to a vessel, or bring the vessel to an unsafe port or anchorage, or expose the marine environment to an unreasonable risk.

Inspections

Article 226 declares that inspections shall not unduly delay the vessel and shall be limited to an examination of certificates, records and other documents required by "generally accepted international rules and standards". Article 5 of MARPOL contains provisions on certificates and special rules on inspection of ships which apply to foreign vessels voluntarily in port. Regulations on the issue and content of certificates are included in the Annexes to this Convention. Article 7 of MARPOL includes the obligation to avoid undue delay to ships.

Article 6 of MARPOL contains regulations on the detection of violations and procedures to be undertaken by port States. They include detailed requirements on co-operation between the administrations of the port and flag State following the detection of a violation to this Convention committed by a foreign ship. These provisions should be considered bearing in mind article 226(2) of UNCLOS. Resolution A.787(19) on procedures for port State control adopted by the IMO Assembly in 1995 contains comprehensive guidelines on port State inspections, identification of contraventions, detention and port and flag State reporting requirements. The guidelines include provisions on the detention of ships.

Provisions are contained in Protocol I to MARPOL regarding reporting of pollution or imminent threat of pollution from the ship to the nearest coastal radio station. Regulation 25 of Annex I and Regulation 16 of Annex II obligate ships to establish on board contingency plans to deal with incidents involving oil or chemical spills from ships.

Institution of proceedings

UNCLOS (article 231) provides that States shall promptly notify the flag State, particularly its diplomatic agents or consular officers and maritime authority, and any other State concerned, of enforcement measures taken against foreign ships. However, with respect to violations committed in the territorial sea, this obligation applies only to such measures as are taken in proceedings. The obligation of port authorities to notify the consul or diplomatic representative and the Administration of the ship concerned of any action against the ship is contained in article 5 (3) of MARPOL.

In accordance with article 223 of UNCLOS, States are obliged in the proceedings taken against a vessel to facilitate the admission of evidence submitted by, *inter alia*, the "competent international organization". States are also required to facilitate the attendance at such proceedings of official representatives of the "competent international organization". Such representatives shall have such rights and duties as may be provided under national law or international law. The appropriate bodies of IMO may find it necessary to consider the procedures and arrangements required to enable IMO to intervene in such proceedings, including the criteria for determining when such an intervention would be appropriate and the procedure for designating the "official representatives" of the Organization, as envisaged in UNCLOS.

Suspension and restrictions on institution of proceedings

UNCLOS regulates special suspension and restriction conditions on proceedings to impose penalties. In accordance with article 228(1), proceedings taken against a foreign ship for violations which occurred beyond the territorial sea of other States must be suspended if the flag State institutes proceedings within six months after the original proceedings were initiated. However, the requirement of suspension does not apply in cases of proceedings which relate to a case of major damage to the coastal State or when the flag State has repeatedly disregarded its obligations to enforce effectively the applicable international rules and standards in respect of violations committed by its vessels. The flag State which has taken proceedings is obliged in due course to "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".

Sanctions

UNCLOS distinguishes different types of sanctions to be imposed with respect to violations of applicable laws and international rules and standards relating to vessel-source pollution committed by foreign vessels. If the violation is committed beyond the territorial sea, monetary penalties only may be imposed (article 230(1) of UNCLOS). As an exception, non-monetary penalties are allowed in cases of violations committed by foreign vessels in the territorial sea causing a "wilful and serious act of pollution" (article 230(2) of UNCLOS).

Pollution incidents and emergencies at sea

In accordance with article 198 of UNCLOS, when a State becomes aware of cases in which the marine environment is in danger of being damaged or has been damaged by pollution, it must give immediate notification to other States likely to be affected by such damage and to the competent international organizations. Article 199 provides that the affected States shall co-operate with the competent international organizations, to the extent possible, in eliminating the effects of pollution and preventing or minimizing the damage. States are further required jointly to develop and promote contingency plans for responding to marine pollution incidents.

The OPRC provides a global framework for international co-operation in combating major oil pollution incidents or threats of marine pollution. In article 3(1)(a), OPRC establishes that each Party

shall require that ships entitled to fly its flag have on board a shipboard oil pollution emergency plan. In accordance with article 5(1)(c) and 3, Parties are required to inform all States concerned and IMO in cases of major oil pollution incidents. Provisions concerning reports on incidents involving harmful substances are also contained in MARPOL, article 8 and Protocol I.

Article 7 of OPRC further develops the main principles of international co-operation in pollution response. Paragraph 3 provides that, in accordance with applicable international agreements, each Party shall take the necessary legal or administrative measures to facilitate the arrival and utilization in and departure from its territory of ships, aircraft and other modes of transport engaged in responding to an oil pollution incident or transporting personnel, cargoes, materials and equipment required to deal with such an incident.

Article 12 on institutional arrangements gives IMO important co-ordinating roles regarding the provision of information, education and training services, technical services and technical assistance.

The Conference on International Co-operation on Preparedness and Response to Pollution Incidents by Hazardous and Noxious Substances, held in London in March 2000, adopted the Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances, 2000.

In accordance with article 15, this Protocol will enter into force twelve months after the date on which not less than fifteen States have either signed it without reservation as to ratification, acceptance or approval or have deposited the requisite instruments of ratification, acceptance, approval or accession, in accordance with article 13 of the Protocol. As at 1 September 2002, there was one Contracting State.

2 FLAG STATE JURISDICTION

The obligation for flag States to adopt and enforce antipollution laws and regulations in compliance with international rules and standards adopted by IMO is included in articles 211(2) and 217 of UNCLOS respectively.

General obligations

In accordance with article 211(2), States must 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 (i.e. those contained in MARPOL) established through the competent international organization (IMO).

Article 217 exclusively addresses the enforcement of international rules and standards by flag States, and provides that such enforcement shall take place "irrespective of where a violation occurs".

Design and Equipment

In May 2001, the IMO Marine Environment Protection Committee (MEPC) adopted amendments to MARPOL which will have the effect of accelerating the phasing out of single hull tankers. This amendment entered into force on 1 September 2002. The amendment requires single hull tankers to be removed from service by 2015, with limited exceptions. The amendment explicitly allows State Parties to MARPOL to deny port entry to tankers which fall within this limited exception.

Manning

In accordance with article 94(4)(c) of UNCLOS, flag States must ensure that the master, officers, and, to the extent appropriate, the crew are fully conversant with and do observe the applicable international rules and standards concerning marine pollution.

STCW 78 includes the requirement of special training for masters in charge of oil or chemical tankers. The comprehensive 1995 amendments to this Convention establish a general obligation for States Parties to ensure that seafarers on board ships are qualified and fit for their duties in connection with the safety of life and property at sea, as well as with the protection of the marine environment. Specific provisions on antipollution training not only for the crews of tankers but also for any other ships are contained in the annex to the Convention. Detailed regulations are laid down in the STCW Code.

Prohibition from sailing

In accordance with article 217(2) of UNCLOS, the flag State shall ensure that vessels flying its flag or of its registry are prohibited from sailing until they can proceed to sea in compliance with the requirements of the international rules and standards established through the competent international organization (IMO) including those on the design, construction, equipment and manning of vessels. This provision in fact extends the scope of flag State jurisdiction over the design, construction, equipment and manning of vessels regulated in article 94(3) of UNCLOS: not only should this jurisdiction be exerted for the purpose of safety, as stated in this provision, but also in connection with the protection of the marine environment by operation of article 217(2).

Carriage and inspection of certificates

Article 217(3) of UNCLOS provides that 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 established through the competent international organization (IMO). Provisions concerning conditions for the issue of mandatory certificates and the information which these certificates should contain are included in the technical annexes of MARPOL. This Convention also provides for the obligation of the flag State to undertake not only initial surveys as a prerequisite for the issue of certificates but also periodical and intermediate inspections and surveys, in order to verify that the certificates conform with the actual condition of the vessels. Conditions for the recognition of validity of certificates also addressed in article 217(3) are discussed in section 3 of this chapter.

Investigation of an alleged violation

Article 217(4) regulates the obligation of the flag State to provide for immediate investigation of a violation by its ships of rules and standards established through the competent international organization (IMO), irrespective of where the violation occurred or where the pollution caused by such violation has occurred or has been spotted. Likewise, article 4 of MARPOL establishes the obligation of the flag State to institute proceedings as soon as possible with respect to any violation of the requirements of the Convention wherever it occurs, in accordance with its law.

In accordance with article 217(5), the flag State, in order to investigate the violation, may request assistance from other States, which in turn shall endeavour to meet such requests. Correlatively, article 217(6) states that flag States should, 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, the flag State must institute proceedings without delay. Several provisions in articles 4 and 6 of MARPOL elaborate in more detail the basic features of the co-operation between the Administration of the flag State and other States Parties. Both UNCLOS (article 217(7)) and MARPOL (article

4(3)) impose upon the flag State the obligation to inform the requesting State and "the competent international organization" (IMO), of the action taken and its outcome. That information must be available to all States. IMO may consider whether special publicity arrangements are needed for these purposes.

On requirements to be implemented by the flag State related to the initiation and suspension of proceedings for detection of violations have been discussed earlier, see subsection on General Framework in section A above.

Penalties

UNCLOS (article 217(8)) establishes that penalties provided by the laws and regulations of the flag State shall be adequate in severity to discourage violations wherever they may occur. A similar obligation is imposed on States Parties to MARPOL (article 4 (4)).

Notification of incidents

Article 211(7) of UNCLOS recommends that international antipollution rules and standards 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. MARPOL (article 8 and Protocol I) contains provisions concerning reports on incidents involving discharge or probable discharge of harmful substances. Article 8 establishes the obligation for States to report without delay to other States likely to be affected by pollution incidents involving harmful substances. In accordance with article I of Protocol I, the master or other person having charge of any ship involved in an incident involving discharges or probable discharges of harmful substances should report the particulars of such incident without delay and to the fullest extent possible. Discharges include not only those resulting from maritime casualties but also those occurring, during the operation of the ship, of oil or noxious liquid substances in excess of the quantity or instantaneous rate permitted under MARPOL. Article V(1) of the Protocol establishes that reports should be made "by the fastest telecommunications channels available with the highest possible priority to the nearest coastal State."

Under article 4 of OPRC, the flag State is responsible for requiring masters to report without delay to the nearest coastal State any event on their ship involving a discharge or probable discharge of oil.

3 PORT STATE JURISDICTION

Several provisions of UNCLOS refer to the jurisdictional powers of States over foreign ships voluntarily in their ports in connection with the implementation of antipollution measures. These provisions, which are explicitly extended to offshore terminals of a State, should be considered together with MARPOL regulations relating to the exercise of port State control. IMO resolution A.787(19) on procedures for port State control which has already been referred to in this document, contains a detailed interpretation of applicable IMO rules and standards and includes an explanation of the meaning of basic concepts involved in the exercise of port State jurisdiction, such as "clear grounds" (for believing that violations have taken place), "inspection", and "detention".

General obligations

Article 219 of UNCLOS (Measures relating to seaworthiness of vessels to avoid pollution) establishes that port States shall, as far as practicable, take administrative measures to prevent the sailing of a vessel which has been found to be in violation of "applicable international rules and standards relating to seaworthiness of vessels and thereby threatens damage to the marine environment". The concept of seaworthiness should be understood not only as embracing provisions

concerning the design, construction, manning, equipment and maintenance of vessels regulated in IMO safety treaties but also those contained in MARPOL. Bearing in mind the principle of no more favourable treatment contained in article 5(4) of MARPOL, port States which are parties to this Convention are entitled to request compliance with preventive antipollution measures therein, also from ships flying the flag of non-parties.

In accordance with article 217(3) of UNCLOS compliance with antipollution rules and standards shall be attested by certificates required by and issued pursuant to international rules and standards established through the competent international organization (IMO) or general diplomatic conference. Article 217(3) establishes that 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. Further rules on the investigation of foreign vessels voluntarily in port are contained in article 226. These regulations reproduce the basic features relating to the inspection of certificates and ships contained in MARPOL, article 5. Paragraph 2 of this article refers to the inspection of certificates regulated in the technical annexes of this Convention.

Both UNCLOS (article 219) and MARPOL (article 5(2)) establish the basic principles governing the detention in port of foreign vessels: port States must ensure that vessels shall not sail until they can proceed to sea without representing an unreasonable threat of damage to the marine environment (article 226(1)(c)). However, ships can be granted permission to leave port in order to proceed to the nearest appropriate repair yard. These measures can be taken without prejudice of the right of the port State to impose penalties in accordance with their national law for violation of antipollution rules and standards, even if this violation consists solely in the non-observance of preventive measures without any illegal discharge having taken place.

IMO recognizes that the primary responsibility for implementing the regulations provided for in IMO conventions rests with the flag State. However, it also acknowledges the need for port State control (PSC) with a view to promoting more effective implementation of all applicable standards for maritime safety and pollution prevention.

With the above in mind, IMO has adopted a number of resolutions in respect of PSC over the years. In 1995, resolution A.787(19) was adopted at the 19th Assembly of IMO amalgamating guidelines contained in relevant IMO resolutions with the aim of providing one set of basic guidelines on the conduct of PSC inspections. In 1999 resolution A.882(21), amending the procedures for port State control, was adopted.

Member Governments, through the conduct of PSC inspections at their ports and discussions at IMO, realized that more effective PSC could be conducted by signing regional agreements. To this end, the following eight regional PSC agreements have been signed and are currently in operation:

- .1 the Paris Memorandum of Understanding on Port State Control (Paris MOU), adopted in Paris on 1 July 1982;
- .2 the Acuerdo de Viña del Mar (Viña del Mar or Latin-America Agreement), signed in Viña del Mar (Chile) on 5 November 1992;
- .3 the Memorandum of Understanding on Port State Control in the Asia-Pacific Region (Tokyo MOU), signed in Tokyo on 1 December 1993;

- .4 the Memorandum of Understanding on Port State Control in the Caribbean Region (Caribbean MOU), signed in Christchurch, Barbados on 9 February 1996;
- .5 the Memorandum of Understanding on Port State Control in the Mediterranean Region (Mediterranean MOU), signed in Malta on 11 July 1997;
- .6 the Indian Ocean Memorandum of Understanding on Port State Control (Indian Ocean MOU), signed in Pretoria, South Africa on 5 June 1998;
- .7 the Memorandum of Understanding for the West and Central African Region (Abuja MOU), signed in Abuja, Nigeria on 22 October 1999; and
- .8 the Memorandum of Understanding on Port State Control in the Black Sea signed in Istanbul, Turkey on 7 April 2000.

With active assistance from IMO, a regional MOU for the Gulf region is being prepared for consideration and adoption. When this regional MOU is signed, there will be a complete network of regional MOUs covering most regions of the world, thus ensuring more effective enforcement of international conventions adopted by IMO.

Discharge violations

UNCLOS provisions for measures to be taken by port States in the event of discharge in violation of international rules and standards are contained in article 218. Paragraph 1 of this article expressly authorizes port States to institute proceedings in respect of foreign ships voluntarily in their ports in cases where illegal discharges have occurred outside the internal waters, territorial sea or EEZ of the port State. Paragraphs 2, 3 and 4 regulate situations involving requests to the port State from the flag State as well as coastal States regarding discharge violations of applicable international rules and standards. Violations by a foreign ship voluntarily in port which have been committed within the territorial sea or EEZ of a State are dealt with in article 220 of the Convention. In both cases the State in the port of which the vessel is voluntarily should apply MARPOL rules and standards.

Action to be taken in the event of violations of regulations on discharges are contained in article 6(2) of MARPOL. This provision establishes that ships to which the Convention apply may, in any port of a Party, be subject to inspection by officers appointed or authorized by that Party "for the purposes of verifying whether the ship has discharged any harmful substances in violation of the provisions of the regulations". Other provisions in the same article deal with communications with the Administration of the flag State and other States affected by the violation, as well as the rules governing institution of proceedings.

Reception Facilities

Article 195 of UNCLOS establishes a duty not to transfer damage or hazards from one area to another or transform one form of pollution into another. MARPOL 73/78 sets out requirements for port reception facilities and all Parties to the Convention are obliged to provide reception facilities for ships calling at their ports. The requirement for such reception facilities is especially necessary in "special areas" where, because of the vulnerability of these areas to pollution, more stringent discharge restrictions have been imposed. MARPOL 73/78 also provides that these reception facilities should, in each case, be "adequate" for the reception of wastes from ships without causing undue delay to the ships using them.

However, unlike ships which are subject to survey and certification by the flag State Administration and port State control, the responsibility for providing reception facilities is a matter for individual Governments, and progress in this regard has not been satisfactory. In order to address the matter, IMO has developed a number of guidelines, the most recent of which have been published as a "Comprehensive Manual on Port Reception Facilities". The Manual provides guidance on many issues including waste management strategy, type and quantity of ship-generated wastes, planning, choice of location, collection and treatment, financing and cost recovery, and co-operation of port and ship requirements. IMO has also provided technical assistance over many years to a large number of countries in the form of seminars, symposia and workshops, mostly at the regional level. Progress has been made in certain parts of the world. It is apparent, however, that, in some oil producing regions, the situation with regard to the provision of reception facilities is not improving.

The provision of adequate reception facilities worldwide is a matter of extreme complexity which involves the shipping industry, port operators, oil and chemical companies and Governments. A satisfactory solution to the shortage of reception facilities in many parts of the world has yet to be found. It is widely recognized that, if this problem is to be satisfactorily resolved, it will be necessary to address the economic as well as the technical aspects of this issue.

At its forty-second session in March 2000, the MEPC adopted Guidelines for ensuring the adequacy of reception facilities (resolution MEPC 83(44)).

Undue delay to ships

UNCLOS (article 226(1)(a)) provides that States shall not delay a foreign vessel longer than is essential for the purposes of investigations of violations of international rules and standards. MARPOL (article 7(1)) establishes that port States should make all possible efforts to avoid a ship being unduly detained or delayed in connection with such investigations.

Special provision on single hull tankers

The amendments to MARPOL which were adopted in 2001 and came into force on 1 September 2002 to phase out single hull tankers permit flag States to extend the life of some tankers beyond the phase-out deadlines. However, other State Parties are permitted to deny port entry to any tanker which is allowed by its flag State to operate under these life extension provisions.

4 COASTAL STATE JURISDICTION

Routeing measures

Article 211(1) of UNCLOS prescribes that States, acting through the competent international organization or general diplomatic conference, shall promote the adoption of routeing systems designed to minimize the threat of accidents which might cause pollution of the marine environment, including the coastline and related interests of coastal States. As mentioned in the previous chapter dealing with safety of navigation, IMO is the competent international organization for developing guidelines and regulations on ships' routeing systems, and comments made under that chapter apply to the prevention of marine pollution. In this regard, mention should be made of new SOLAS regulation V/8, (a) and (j) (see V/10 in the text of SOLAS Chapter V as amended by MSC in 2000). According to paragraph (a), ships' routeing systems should also be established bearing in mind the need to protect the marine environment. Paragraph (j) requires that routeing systems comply with UNCLOS.

The General Provisions on Ships' Routeing (resolution A.572(14) adopted by the IMO Assembly in 1985) were amended in 1995 by the insertion of new paragraphs 3.6 and 3.7, which deal with routeing systems for the protection of environmentally sensitive areas. Paragraph 3.6 establishes the criteria to be taken into account when considering the adoption of a routeing system for the protection of the marine environment. Paragraph 3.7 sets limits for the adoption of routeing systems. In accordance with this paragraph IMO should not adopt a system that would impose unnecessary constraints on shipping, or establish an area to be avoided that would impede the passage of ships through an international strait. In November 1997, the IMO Assembly adopted resolution A.858(20) by which it delegated to MSC the function of adopting traffic separation schemes, and routeing measures other than traffic separation schemes, including the designation and substitution of archipelagic sea lanes.

Territorial sea

In accordance with article 21(1) of UNCLOS the coastal State may adopt rules 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 ... (f) the preservation of the environment of the coastal State and the prevention, reduction and control of pollution thereof". In this connection, article 211(4) establishes that 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". This provision is complemented by a reference to the need not to hamper innocent passage of foreign vessels. The regulatory powers of the coastal State in this regard are limited in accordance with article 21(2): in the case of antipollution measures, laws and regulations adopted by the coastal State shall not apply to the design, construction, manning, or equipment of foreign ships unless they are giving effect to generally accepted international rules and standards, in this case also to those contained in MARPOL.

Article 220(2) of UNCLOS regulates the right of intervention of the coastal State in the territorial sea in connection with the violation of international rules and standards for the prevention, reduction and control of pollution from vessels, namely those rules and standards adopted at IMO. In accordance with article 220(5), the coastal State may undertake physical inspection of a vessel where there are clear grounds for believing that such vessel has committed a violation of the international rules and standards for the prevention, reduction and control of pollution from vessels while navigating in the territorial sea of the coastal State. Where evidence so warrants, the coastal State may institute proceedings, including detention of the vessel in accordance with its laws.

Exclusive Economic Zone

Article 56(1)(b)(iii) of UNCLOS provides that in the EEZ the coastal State has jurisdiction with regard to the protection and preservation of the marine environment. In exercising this jurisdiction the coastal State is empowered to enact laws and regulations for the prevention, reduction, and control of vessel-source pollution in the EEZ. Such laws and regulations must, in accordance with article 211(5) of UNCLOS, conform to and give effect to "generally accepted international rules and standards established through the competent international organization" (IMO).

Several provisions of UNCLOS regulate the rights of the coastal State in cases of violations to international antipollution rules and standards committed in the EEZ by vessels navigating either in the EEZ or the territorial sea:

- If there are clear grounds for believing that such a violation has taken place, the State may, in accordance with article 220(3), require the vessel to give information regarding its identity and port of registry, its last and next port of call and other relevant information required to establish whether a violation has occurred.
- When there are clear grounds for believing that a vessel has committed a violation resulting in a substantial discharge causing or threatening significant pollution of the marine environment, the coastal State may, in accordance with article 220(5), undertake physical inspection of the vessel for matters related 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.
- Article 220(6) establishes that if there is "clear and objective evidence" that a vessel has committed a violation resulting in a discharge causing major damage or threat of major damage to the coastline or related interest of the coastal State, or to any of its resources of the territorial sea or the EEZ, the State may, provided that the evidence so warrants, institute proceedings, including detention of the vessel.

Intervention in case of a major incident beyond the territorial sea

Article 221(1) recognizes the rights 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 which may reasonably be expected to result in major harmful consequences".

This provision echoes the main features of the right of intervention by the coastal States regulated by the Intervention Convention of 1969 and its Protocol of 1973, in respect of incidents involving, respectively, a major discharge of oil or of substances other than oil. These treaties refer solely to the right of intervention on the high seas because the concept of EEZ was not known at the time of their adoption. Following the entry into force of UNCLOS, the regulations on the right of the coastal State laid down in both IMO treaties should be considered as applicable both to the EEZ and to the high seas.

Special mandatory measures

In accordance with article 211(6) of UNCLOS the coastal State may adopt special mandatory measures for the prevention of vessel-source pollution in certain clearly defined areas of its EEZ. To justify the adoption of such measures, evidence must indicate that the existing international rules and standards are inadequate for the special circumstances of the area concerned. The area must be clearly defined and the adoption of special measures must be required for recognized technical reasons in relation to the oceanographical and ecological conditions, as well as the utilization or the protection of the resources and the particular character of the traffic of the area concerned.

Article 211(6)(a) and (b) include specific conditions for the adoption of special mandatory measures:

- the coastal State should conduct appropriate consultations through the "competent international organization" (IMO) with other States concerned. It should also submit a communication to IMO for special mandatory measures, supported by scientific and technical evidence and information on reception facilities;

- IMO, within 12 months of receiving the communication, shall determine whether the conditions in the proposed area justify the adoption of special mandatory measures;
- following a decision by IMO, the coastal State may adopt laws and regulations implementing such international rules and standards or navigational practices as are made applicable, through the organization (IMO), for special areas. These laws shall not become applicable to foreign vessels until 15 months after the submission of the communication to the organization (IMO);
- the coastal State shall publish the limits of the area where the special mandatory measures are to be enforced.

In accordance with article 211(6)(c) the coastal State may enact for the same area additional laws and regulations on discharges or navigational practices. However, these laws and regulations shall not require foreign vessels to observe design, construction, manning or equipment standards other than generally accepted international rules and standards. If the coastal State intends to adopt additional laws and regulations it must notify the organization (IMO) thereof at the time it submits the communication referred to above.

In accordance with article 220(8) of UNCLOS, the provisions on enforcement contained in article 220(3) to (7) also apply to the enforcement of national laws and regulations implementing special mandatory measures pursuant to article 211(a).

Special areas and particularly sensitive sea areas (PSSA)

Special mandatory requirements for certain areas regarding the prevention of operational discharges of harmful substances are contained in Annexes I, II and V of MARPOL. Guidelines for the designation of Special Areas under MARPOL are formulated in resolution A.927(22) on guidelines for the designation of special areas and the identification of particularly sensitive sea areas adopted by the IMO Assembly in 2001.

A comparison between areas requiring special mandatory measures mentioned in article 211(6) of UNCLOS and provisions on Special Areas under MARPOL indicates that, while the former are restricted in jurisdictional scope to the EEZ, MARPOL Special Area provisions cover enclosed or semi-enclosed areas which may include parts of the territorial sea, the EEZ and the high seas.

While MARPOL special requirements only apply to the discharge of harmful substances, article 211(6) of UNCLOS does not contain any specification as to the kind of measures that may be taken.

Measures other than special restrictions for operational discharges in certain areas are considered in the Guidelines for the identification of PSSAs which are also contained in IMO resolution A.927(22).

The Guidelines define a PSSA as an area which needs special protection through action by IMO because of its significance for recognized ecological, socio-economic or scientific reasons and which may be vulnerable to environmental damage by maritime activities. Among the kind of special mandatory measure which may be adopted to protect a PSSA the Guidelines mention the adoption of specific routing measures, including the possibility of declaring part or the whole of a PSSA as an area to be avoided by ships. The adoption of routing measures for PSSA should take into account the IMO General Provisions on Ships' Routing (resolution A.572(14)), as amended. Other possible measures are compulsory pilotage schemes or vessel traffic management systems. The Guidelines indicate that a proposed PSSA may include a buffer zone, which would be justified

only once it is demonstrated how it would contribute to the adequate protection of the core area identified as particularly sensitive.

Two sea areas, namely the Great Barrier Reef off Australia, and the Sabana-Camagüey archipelago off Cuba, have been declared a PSSA by IMO. Two other areas have been agreed in principle, i.e., the sea area surrounding the Florida Keys and the sea area around the Malpelo Islands off Columbia. A declaration of these two areas as particularly sensitive sea areas is expected at MEPC 47 (2002).

States bordering straits used for international navigation and archipelagic States

Article 42(1)(b) of UNCLOS empowers States bordering straits used for international navigation to adopt laws and regulations relating to transit passage through the strait in respect of 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". National legislation adopted in this regard must not discriminate among foreign ships or have the practical effect of impairing the right of transit passage (article 42(2)). In accordance with article 39(2)(b), ships in transit must comply with "generally accepted international regulations, procedures and practices for the prevention, reduction and control of pollution from ships", namely, MARPOL and other relevant IMO instruments.

UNCLOS (article 43 (b)) provides that user States and States bordering straits should by agreement cooperate for the prevention, reduction and control of vessel-source pollution. There are currently no specific international instruments regulating this matter. Thus, IMO may consider whether adoption of international regulations in this regard may be necessary.

By virtue of article 54 of UNCLOS, the rights and obligations of flag and coastal States regarding the prevention, reduction and control of pollution in accordance with applicable international regulations regarding the discharge of oil, oily wastes and other noxious substances in international straits apply *mutatis mutandis* to archipelagic sea lane passage.

UNCLOS includes a specific provision on the enforcement powers of States bordering straits used for international navigation. Under article 233 of UNCLOS, States bordering straits are entitled to take enforcement measures against ships in transit passage only if the ship has committed a violation of the laws and regulations referred to in article 42(1)(a) and (b) of UNCLOS causing or threatening major damage to the marine environment of the straits. In such a case, the enforcement measures taken by the bordering State are subject to the safeguards of part XII, section 7 of UNCLOS.

B DUMPING AT SEA OF WASTES AND OTHER MATTER

General

UNCLOS includes a definition of "dumping" in article 1(5). Article 210 contains regulations specifically related to the prevention, reduction and control of pollution by dumping. The obligation for States to adopt laws and regulations and to take the additional measures that may be needed to prevent, reduce and control pollution of the marine environment by dumping is contained in paragraphs 1 and 2. In accordance with paragraph 6 such laws, regulations and measures shall be no less effective in preventing, reducing and controlling such pollution than the "global rules and standards".

In this connection, article 210(4) imposes upon States the obligation to endeavour to establish global and regional rules and standards and recommended practices and procedures to prevent, reduce and control pollution by dumping. Such provisions should be adopted through "competent

international organizations or diplomatic conference". The reference in the plural to international organizations indicates that in this case the task of IMO at global level can be complemented by regulatory activities undertaken under the sponsorship of other organizations. Co-operation between IMO and other organizations has been implemented, especially in connection with the adoption of regional agreements.

The international global and regional framework which has been established in this regard consist of several treaties and agreements. At a global level, antipollution measures are contained in the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (LC or London Convention), as periodically amended by decisions of its Contracting Parties. In 1996 the Contracting Parties to the London Convention adopted the Protocol to the Convention on the Prevention of Marine Pollution by the Dumping of Wastes and Other Matter, (1996 LC Protocol) which comprehensively and substantially amends the parent convention.

IMO is responsible for the performance of secretarial functions such as the organization and servicing of the Consultative Meetings of the Contracting Parties to the London Convention and other subsidiary bodies reporting to the Consultative Meetings. Similar functions, as well as depositary functions, are regulated in the Protocol adopted in 1996. The Protocol further expands the tasks of IMO by assigning to the Organization, *inter alia*, the duties of providing advice on implementation and, subject to availability of adequate resources, collaborating in environmental assessments and co-operating with competent international organizations concerned with the prevention and control of pollution. The Protocol assigns IMO the roles of co-ordination and co-operation regarding technical co-operation activities in the field of training, and access to and transfer of environmentally sound technologies and know-how to developing countries.

Seventy-eight States representing more than 67% of the world merchant fleet are at present Parties to the London Convention.

Sixteen States have ratified, accepted, approved or acceded to the 1996 Protocol to the London Convention. 26 ratifications are needed to bring the instrument into force.

Relationship with UNCLOS

Bearing in mind the provisions on the need prescribed in article 237 of UNCLOS for compatibility between this Convention and environmental treaties, the Eleventh Consultative Meeting of Contracting Parties agreed in 1988 that there were "no fundamental inconsistencies" between UNCLOS and the London Convention 1972. At their Seventeenth Consultative Meeting held in 1994, the Contracting Parties expressed their opinion that States Parties to UNCLOS would be legally bound to adopt laws and regulations and take other measures to prevent, reduce and control pollution by dumping. In accordance with article 210(6) of UNCLOS, these laws and regulations must be no less effective than the global rules and standards contained in the London Convention.

The Seventeenth Consultative Meeting further noted that States which are Parties to both UNCLOS and the London Convention 1972 could be called upon to carry out specific obligations assumed by them under UNCLOS. In compliance with a decision taken at the Meeting, the Secretary-General of IMO wrote to States Parties to UNCLOS which are not Parties to the London Convention 1972, drawing attention to their obligations relating to the provisions concerning the prevention of marine pollution by dumping, and the objectives and achievements of the London Convention 1972.

Relationship with regional agreements

Article VIII of the London Convention encourages Contracting Parties with common interests in a given geographical area to enter into regional agreements consistent with the Convention "for the prevention of pollution, especially by dumping", taking into account characteristic features of the region's marine environment. The contents of these agreements should be consistent with those of the Convention. Non-parties to these regional agreements, although not legally bound by them, should endeavour to act consistently within them. Regional agreements compatible with the London Convention have been concluded within the framework of the Regional Seas Programme developed by the United Nations Environment Programme (UNEP). The implementation of this programme has resulted in the adoption of several regional conventions and protocols, some of which include provisions concerning the prevention of marine pollution by dumping. This is the case of the Mediterranean Sea Convention, the South Pacific Convention and the Black Sea Convention. The South East Pacific Convention also includes provisions regarding the prevention of marine pollution by disposal of radioactive wastes at sea.

Flag State jurisdiction

Article 216(1)(b) of UNCLOS requires the flag State to enforce with regard to vessels flying its flag or vessels or aircraft or its registry the laws and regulations adopted in accordance with the Convention and applicable international rules and standards adopted through the competent international organizations or diplomatic conference for the prevention, reduction and control of pollution of the marine environment by dumping. The London Convention (article VII(1)(a)) requires each Contracting Party to apply the measures required to implement the Convention to vessels and aircraft registered in its territory or flying its flag.

The application of the London Convention to all sea areas is established by way of interpretation of the definition of "sea" included in article 1 of the Convention, which makes the global rules and standards therein contained applicable to all marine waters other than the internal waters of States. Bearing in mind decisions which had already been taken and implemented by Contracting Parties, the 1996 LC Protocol extends the concept specifically to include the sea-bed and the subsoil thereof, to the exclusion of sub-seabed repositories accessed only from land.

Coastal State jurisdiction

According to UNCLOS (article 210(5)), dumping within the territorial sea and the EEZ or onto the continental shelf shall not be carried out without the express prior approval of the coastal State. The coastal State is required by article 216(1) of UNCLOS to enforce laws and regulations adopted in accordance with the Convention and applicable international rules and standards established through the competent international organizations or diplomatic conference for the prevention, reduction and control of pollution of the marine environment by dumping. The Eleventh Consultative Meeting of Contracting Parties agreed that a Party could apply the London Convention 1972 not only in its territorial waters, as specifically stated in this Convention, but also in the EEZ.

The London Convention contains specific regulations establishing the conditions which coastal States should follow in the granting of permits for dumping in their jurisdictional waters. Annex 1 to the Convention includes a list of substances the dumping of which is entirely forbidden. Substances which are part of the list contained in Annex II require prior special permit from the coastal State. The dumping of all other substances not listed in either Annex I or II requires a prior general permit. This system is decisively reversed by the 1996 LC Protocol which establishes a general prohibition for dumping of all wastes and other matter, except for those belonging to one of the seven categories listed in Annex 1 to the Protocol, namely, dredged material, sewage sludge, fish waste or material resulting from industrial fish processing operations, vessels and platforms or other man-made structures, inert, inorganic geological material, organic material of natural origin and

bulky items comprising unarmful materials. These wastes or other matter may be considered for dumping provided they do not contain levels of radioactivity greater than *de minimis* (exempt) concentrations as defined by the IAEA.

C OTHER SOURCES OF MARINE POLLUTION

Air pollution

Within the framework of articles 212(3) and 222 of UNCLOS, IMO is competent to establish global rules and standards applicable to vessels on the prevention and control of marine pollution from or through the atmosphere. States must adopt national laws in this field, taking account of internationally agreed rules and standards (UNCLOS (article 212(1)). In this regard, States must take account, *inter alia*, of relevant IMO regulations. States are further under obligation to enforce their laws and regulations and to implement applicable rules and standards adopted internationally.

Resolution A.719(17) adopted by the IMO Assembly on 6 November 1991 recognized the urgent necessity to establish a policy on the prevention of air pollution from ships and requested the relevant IMO bodies to prepare a draft new annex to MARPOL. The draft annex was prepared by MEPC and presented as a basic text for the consideration of a Conference of Parties to MARPOL held in September 1997. The Conference adopted the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 relating thereto. This new Protocol incorporates into MARPOL Annex VI entitled Regulations for the Prevention of Air Pollution from Ships.

Six States have ratified the Protocol of 1997. Fifteen ratifications are needed to bring the instrument into force.

Pollution from sea-bed activities

Article 208(1) of UNCLOS provides that coastal States shall establish national laws for the control of marine pollution from sea-bed activities including artificial islands, installations and structures under national jurisdiction. These laws shall be no less effective than "international rules, standards and recommended practices and procedures" which may be established through "competent international organizations" on a global or regional level (UNCLOS article 208(2) and (5)). States shall also enforce their national legislation and take other measures necessary to implement "applicable international rules and standards" established through competent international organizations (UNCLOS, article 214).

IMO has contributed to the establishment of global rules and standards for the prevention and control of this type of pollution. Regulation 21 in Annex I of MARPOL contains special requirements for drilling rigs and other platforms. The Code for the Construction and Equipment of Mobile Offshore Drilling Units, 1989 (MODU Code), recommends design criteria, construction standards and other safety measures for mobile offshore drilling units so as to minimize not only risks to such units and to the personnel on board, but also environmental risks which could arise from a collision between vessels and offshore installations and structures. In this regard, IMO resolution A.671(16) establishes recommendations on safety of navigation around offshore installations and structures.

MARPOL applies to pollution from "fixed or floating platforms" other than pollution resulting from the "release of harmful substances directly arising from the exploration, exploitation and associated offshore processing of sea-bed mineral resources" (article 2). In this regard Annex I, regulation 21 lays down special oil discharge requirements for drilling rigs and other platforms.

At the Seventeenth Consultative Meeting of Contracting Parties to the London Convention 1972, attention was drawn to the content of article 208 of UNCLOS. The Meeting concluded that the issues of pollution from sea-bed activities should be taken into account by the Amendment Group in its review of the London Convention 1972. The Eighteenth Consultative Meeting agreed to extend the area to which the Convention applies to include the sea-bed and the subsoil thereof. Consensus in this regard is reflected in the amendment to the definition of "sea" adopted in the 1996 LC Protocol. In accordance with this amendment the concept of sea includes the seabed and the subsoil thereof, with the exclusion of sub-seabed depositories acceded to from land.

Harmful Aquatic Organisms in Ballast Water

In resolution A.868(20), The assembly adopted Guidelines for the Control and Management of Ships' Ballast Water and requested the Marine Environment Protection Committee to work towards completion of legally binding provisions on ballast water management to minimize the risk of introducing harmful aquatic organisms and pathogens through ships' ballast water and sediments.

MEPC is in the process of developing a draft legal instrument. The draft under discussion is based on a "Two-tier" approach: "Tier 1" concerns mandatory requirements applicable to all ships, whereas "Tier 2" concerns special requirements applicable in certain areas. Extensive discussions have been held on various aspects of the draft instrument, and associated guidelines and circulars. The Committee has agreed that mid-ocean ballast water exchange should be regarded as an interim solution. The principal issue left outstanding and to be resolved is the development of the standards that will be required.

The current planning is to prepare a draft legal instrument for consideration at a Diplomatic Conference on Ballast Water Management to be held in 2003.

Harmful Effects of the Use of Anti-Fouling Paints for Ships

Since 1988, the MEPC has been considering measures to reduce the harmful effects of the use of 'anti-fouling' paint which are intended to keep organisms such as barnacles from clinging to ships hulls, but which disperse an active substance which contaminates the marine environment and can damage or destroy biological systems (such as oyster beds). In 1999, the Assembly adopted resolution A.895(21) on Anti-Fouling Systems used on ships. This resolution called for a ban on the use of certain compounds in anti-fouling systems by 2008, and called on MEPC to develop a legally-binding instrument to this effect. MEPC subsequently prepared a text of a draft International Convention on the Control of Harmful Anti-fouling Systems. This convention was adopted by a Diplomatic Conference held in October 2001. It is not yet in force.

Ship recycling

Taking into account article 195 of UNCLOS, MEPC is considering IMO's role regarding the scrapping of ships or ship recycling, with the intention of reducing pollution from ships in connection with such recycling, and reducing the risk to human health at the recycling yards. This is a process involving the International Labour Organization (ILO), the Basel Convention under UNEP, and IMO. In the first instance, MEPC is aiming at development of guidance for shipowners regarding ship recycling, in the form of a draft resolution for submission to the IMO Assembly in 2003.

CHAPTER III

LIABILITY FOR POLLUTION DAMAGE

Article 235(2) of UNCLOS regulates the obligation for States to 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." Paragraph 3 provides that, with the objective of assuring prompt and adequate compensation in respect of damage caused by pollution of the marine environment, where appropriate, States shall co-operate in the development of international law setting out criteria and procedures for payment of adequate compensation, such as compulsory insurance or compensation funds.

These provisions should be considered in connection with several treaty instruments adopted by IMO prior to, and after the adoption of, UNCLOS in the field of liability and compensation for damage related to the carriage of oil and other hazardous and noxious substances by sea. These instruments are:

- International Convention on Civil Liability for Oil Pollution Damage (CLC), 1969, and the 1992 Protocol thereto;
- International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (Fund), 1971, and the 1992 Protocol thereto;
- International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS), 1996.
- International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001

The Civil Liability Convention, the HNS Convention, and the Bunker Convention establish a system of strict liability for the shipowner and an obligation to contract compulsory third party liability insurance to cover for limits of compensation established in the treaties.

The Fund Convention and the HNS Convention regulate the constitution and functioning of international funds in charge of providing compensation additional to that paid by the shipowner whenever this compensation proves to be insufficient. These international funds also pay compensation in some cases where the compensation to be paid by the shipowner is not available.

The CLC 69 and 71 Fund Convention applied to damage occurring in the territorial sea of States Parties. The Protocols of 1992, which entirely superseded the original parent treaties, extend the scope to cover damage occurring in the EEZ. The HNS Convention has a similar geographic scope of application with regard to pollution damage. (Since 24 May 2002, the 1971 Fund Convention has ceased to be in force. It has been replaced by the 1992 Fund Convention.)

The IMO Legal Committee, at its 82nd session in 2000, considered a request to increase the limitation amounts set out in the 1992 Protocol to the 1969 Civil Liability Convention (1992 CLC), and the compensation limits set out in the 1992 Protocol to the 1971 International Oil Pollution Compensation Fund Convention (1992 Fund Convention). The request was made by 19 Contracting States to the 1992 Protocols. Utilising for the first time the tacit acceptance procedure, the Committee adopted two Resolutions amending the 1992 Protocols by increasing the limits in each of them by 50.37%. The amendments are scheduled to enter into force on 1 November 2003.

CHAPTER IV

TECHNICAL CO-OPERATION. ASSISTANCE TO DEVELOPING COUNTRIES

General

1 Several articles in parts XII and XIV of UNCLOS provide for co-operation among States, either directly or through competent international organizations, in the field of marine pollution, marine scientific research, and marine technology. Some of these provisions refer in particular to co-operation by means of assistance to developing countries. The Convention on the International Maritime Organization (article 43(a)) provides that IMO shall, through its Technical Co-operation Committee, consider any matter within its scope concerned with "the implementation of technical co-operation projects funded by the relevant United Nations Programme for which the Organization acts as the executing or co-operating agency or by funds-in-trust voluntarily provided to the Organization..." .

2 Within the framework of the Integrated Technical Co-operation Programme (ITCP), other IMO Committees are in charge of working with the IMO Secretariat and the Technical Co-operation Committee in the identification of needs to assist developing countries in the strengthening of their institutional, legal, managerial, scientific, technical and training capacities to implement global rules and standards contained in the treaty and non-treaty instruments adopted by IMO in the following areas:

- maritime safety and related aspects of shipping and ports;
- marine environment protection;
- maritime legislation;
- facilitation of international maritime traffic.

3 MARPOL, the 1972 London Convention and its 1996 Protocol, OPRC and STCW contain provisions designed to encourage technical co-operation among Parties.

A PROTECTION AND PRESERVATION OF THE MARINE ENVIRONMENT

4 Article 197 of UNCLOS prescribes that States shall co-operate on a global or regional basis, directly or through competent international organizations, in formulating and elaborating international rules, standards and recommended practices and procedures for the protection and preservation of the marine environment, taking into account characteristic regional features. IMO, together with other organizations, co-operates in the Regional Seas Programme of the United Nations Environment Programme (UNEP). In particular, IMO has played a key role in the establishment of regional arrangements for combating marine pollution. Also significant is IMO's participation in and contribution to the Group of Experts on Scientific Aspects of Marine Pollution (GESAMP), which brings together several agencies within the United Nations for the expert consideration and the undertaking of appropriate studies on scientific aspects of marine pollution. IMO provides administrative secretariat services to GESAMP.

5 Article 202 establishes the duty of States, directly or through competent international organizations, to promote scientific and technical assistance to developing States for the protection and preservation of the marine environment. The scope of the assistance covers activities such as training of scientific personnel, supply of necessary equipment and facilities, and advice for research. The duty of technical assistance shall also include appropriate assistance for the minimization of the effects of major incidents which may cause serious marine pollution, and the preparation of

environmental assessments. In accordance with article 203, developing States should be granted preference by international organizations in the allocation of appropriate funds and technical assistance and the utilization of their specialized services.

6 In compliance with these UNCLOS provisions, article 17 of MARPOL on promotion of technical co-operation establishes that Parties shall, in consultation with IMO and other international bodies, with assistance and co-ordination by the Executive Director of the United Nations Environment Programme, promote support for those Parties that request technical assistance for training, monitoring and supply of equipment and facilities for the reception of wastes, encouragement of research and the facilitation of other measures and agreements to prevent or mitigate pollution of the marine environment by ships. A similar provision is included in article IX of the London Convention in connection with the disposal and treatment of waste and other measures to prevent or mitigate pollution caused by dumping.

7 IMO continues to provide assistance to many developing countries – at the national, regional and global levels – for the effective implementation of its Conventions dealing with the prevention of marine pollution. Such activities include technical and legal advisory services, training of administrative personnel and ship surveyors and inspectors, and the development of plans for the reception and management of ship-generated wastes. Among the principal regional or global activities carried out by IMO in these fields, the following may be cited: (a) a GEF/World Bank/IMO programme entitled “Wider Caribbean Initiative on Ship-generated Wastes” carried out during 1994-1998; (b) a five-year GEF/UNDP/IMO Regional Programme on Building Partnerships for Environmental Management in the East Asian Seas (PEMSEA), which started in October 1999; (c) a three-year GEF/UNDP/IMO project on removal of barriers to the effective implementation of ballast water control and management measures in developing countries, which commenced in May 2000; and (d) a one-year GEF/WB/PDF Block B grant, which started in March 2001, for the preparation of a project for the development of a regional marine electronic highway in the East Asian Seas with a first phase in the Straits of Malaysia and Singapore.

8 Article 8 of OPRC contains the agreement of the Parties to co-operate directly or through IMO and relevant regional organizations in the promotion and exchange of results of research and development programmes related to oil pollution preparedness and response, including technologies and techniques for the minimization and mitigation of the effects of oil pollution and for restoration of the marine environment. In accordance with article 9, Parties undertake to provide support to those Parties that request technical assistance in respect of training, availability and transfer of the relevant technology, equipment and facilities, and other measures to prepare for and respond to oil pollution incidents. Article 10 establishes that Parties shall endeavour to conclude bilateral or multilateral agreements implementing arrangements concerning oil pollution preparedness and response. In accordance with article 12, IMO is given the tasks of facilitating the provision of assistance and advice to States establishing national or regional response capabilities and in connection with major oil pollution incidents.

9 As part of the development of regional systems in preparedness, response and co-operation in the event of accidental marine pollution, regional contingency plans were prepared for the Black Sea, the South Asia and the North West Pacific regions. The regional contingency plan has been approved for the South Asian Sea region. The prepared regional contingency plan for the Black Sea is still under consideration and will be approved in 2002. The plan for the North West Pacific region is expected to be approved in May this year. The same process is being developed in the Mediterranean region, the Sea and Gulf of Aden and in the Central and Western Africa region. The IMO has signed an agreement with UNOPS as Executing Agency for the United Nations Development Programme’s Caspian Environment Programme (CEP), in which IMO and UNOPS/CEP wish to implement activities relating to the preparation and development of the national and regional contingency plans for the Caspian Sea countries.

10 Regional co-operation under the Emergency Protocol to the Abidjan Convention has been revitalized through the organization in the year 2000 of a joint IMO/UNEP meeting of national experts and of an IMO/IPIECA regional workshop aiming to adopt a Plan of Action for the development of regional co-operation for preparedness and response to accidental marine pollution.

11 In 1994, IMO and the Port Management Association of Eastern and Southern Africa (PMAESA) developed a strategy and action plan for the protection of the marine environment in Eastern and Southern Africa. This strategy is now under review and will in future be implemented by IMO, PMAESA, the Southern Africa Transport and Communication Commission (SATCC) and the Common Market for Eastern and Southern Africa (COMESA).

12 In the Wider Caribbean region, the Regional Marine Pollution Emergency Information and Training Centre (REMPEITC-Carib) has been formally established in Curacao as a Regional Activity Centre within the framework of the Caribbean Environment Programme. A Memorandum of Understanding between the Netherlands Antilles, UNEP and IMO is to be signed in 2001 in that connection. The Centre provides advice and hands-on support to the countries and territories of the region on matters concerning the prevention of marine pollution, response and control activities when pollution has in fact occurred, as well as civil liability and compensation issues.

13 Within the framework of the Northwest Pacific Action Plan, the Marine Environmental Emergency Preparedness and Response Regional Activity Centre (MER/RAC) has been established in the Republic of Korea. In July 2000 the Korean Research Institute of Ship and Ocean Engineering/Korean Ocean Research and Development Institute, UNEP and IMO signed a Memorandum of Understanding aiming at establishing long-term co-operation with MER/RAC.

14 Article 13 of the 1996 LC Protocol expands the scope of article IX of the parent Convention by establishing the obligation of the Parties to promote technical co-operation and assistance in connection with access to and transfer of environmentally sound technologies and corresponding know-how, in particular to developing countries and countries in transition to market economies. IMO is assigned specific functions of co-ordination in this regard.

15 Articles 200 and 201 of UNCLOS deal with the duty of co-operation in the promotion of studies, research programmes and exchange of information and data acquired about marine pollution, and the establishment of scientific criteria for international regulations. In this context, IMO has supported the organization of three global Research and Development Forums on matters concerning oil pollution of the seas. Articles 204 to 206 contain provisions on co-operation regarding the monitoring and assessment of the environmental impact of pollution. IMO's contribution to the work of GESAMP should again be mentioned in this regard.

B TRAINING

16 Co-operation requirements for training of seafarers in the field both of safety of navigation and the prevention and control of marine pollution are addressed in article XI(1) of STCW 78, as amended, which regulates the obligation for Parties to promote, in consultation and with the assistance of IMO, support for those parties which request technical assistance for the training of personnel, the establishment of institutions for the training of seafarers, the supply of equipment and facilities for training institutions, the development of adequate training programmes and the facilitation of measures and arrangements to enhance qualifications of seafarers. The article includes the provision that this assistance should be performed preferably on a national, sub-regional or regional basis, "to further the aims and purposes of the Convention, taking into account the special needs of developing countries". In compliance with this requirement IMO assists world wide

maritime training institutes in charge of providing basic training for seafarers in accordance with STCW.

17 The Organization has sponsored a series of seminars and workshops around the world to promote implementation of the 1995 STCW amendments. Venues for these seminars include Ghana, Kenya, Malta, Namibia, South Africa, Tanzania, and Tunisia. At the same time, the IMO model courses have been revised to bring them up to date with the new certification requirements.

Maritime training institutes under the auspices of IMO

18 Within the framework of its technical co-operation programme, IMO is particularly active in the development of human resources to provide maritime administrations, especially those in developing countries, with the know-how required to comply with international rules and standards.

19 Under the auspices of IMO, three global educational institutions have been created. The World Maritime University (WMU) in Malmö, Sweden, offers Master of Science degree courses plus professional development courses in maritime safety administration, general maritime administration and environmental protection, shipping management, port management and maritime education and training. The IMO International Maritime Law Institute (IMLI) in Malta offers a one-year advanced course at postgraduate level leading to the degree of Master of Laws. The IMO International Maritime Academy (IMA) in Trieste, Italy, offers students the opportunity to attend seminars and short courses at the Academy based on a range of IMO model courses. These courses contain precise and up-to-date information on a wide range of particular issues related to safety of navigation and prevention of marine pollution.

Technical co-operation – Sub-Programme for maritime legislation

20 The IMO Legal Committee, from its eighty-first to eighty-fourth sessions, has noted with satisfaction the progress reports on the implementation of the sub-programme from June 1999 to December 2001. The Committee noted in particular the growing number of requests for assistance in the field of maritime legislation, and also the difficulties in identifying legal experts with the appropriate experience and expertise to undertake advisory missions at the relatively low consultancy fee which IMO is able to offer. It endorsed the continued use within the proposed Integrated Technical Co-operation Programme (ITCP) for 2002-2003 of “thematic priorities”. The Committee also noted the availability of the new Model Shipping Act and Model Shipping (Marine Pollution) Act prepared for the English-speaking Caribbean countries, as well as the preparation of technical Codes and implementing regulations for both Acts. The Committee noted further the preparation of a model maritime Code for the CEMAC Member States (Central Africa) and also commended the work of the International Maritime Law Institute (IMLI) in Malta in preparing legal draftsmen and training personnel to implement IMO Conventions in developing countries.

C MARINE SCIENTIFIC RESEARCH

21 Article 242 of UNCLOS places upon States and competent international organizations the general obligation to promote international co-operation in marine scientific research. In article 243, States and international organizations are required to co-operate through the conclusion of bilateral and multilateral agreements to create favourable conditions for the conduct of marine scientific research in the marine environment. In accordance with article 244, publication and dissemination of information on proposed major programmes and of knowledge resulting from marine scientific research relies on States and competent international organizations. MARPOL, article 17, expressly provides for the obligation to promote technical assistance for the encouragement of research. The 1996 Protocol to the London Convention includes in article 14 a new provision on scientific and

technical research related to pollution by dumping. This provision deals with the duty of Parties to promote such research and to facilitate information on scientific and technical activities and programmes, and on impact assessment.

Scientific research installations

22 In accordance with article 261 of UNCLOS, 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 provides that such installations or equipment shall bear identification markings and shall have appropriate internationally agreed warning signals to ensure safety at sea, taking into account rules and standards established by competent international organizations.

23 IMO would appear to be the most appropriate body for developing international rules and standards on warning signals for such installations and equipment to ensure safety at sea. Such elaboration may need to be undertaken in consultation with other international organizations concerned such as the International Civil Aviation Organization (ICAO), the International Telecommunication Union (ITU), the International Mobile Satellite Organization (Inmarsat), the Inter-governmental Oceanographic Commission (IOC), the International Hydrographic Organization (IHO) and the International Association of Lighthouse Authorities (IALA).

D DEVELOPMENT AND TRANSFER OF MARINE TECHNOLOGY

24 Among the objectives of the development and transfer of marine technology listed in article 268 of UNCLOS mention is made of "the development of human resources through training and education of nationals of developing countries". Article 269(a) includes among the measures to achieve these objectives the establishment of programmes of technical co-operation "for the effective transfer of all kinds of marine technology to States which may need and request technical assistance in this field", and to developing States which have not been able to establish or develop their own technological capacity. OPRC, articles 8(1) and 9(2), and the 1996 LC Protocol, article 13(5) contain specific reference to the transfer of technology within the framework of technical co-operation activities to be promoted in order to comply with the objectives and provisions of both treaties.

PART III

SETTLEMENT OF DISPUTES

Role of IMO in the Special Arbitration Procedure

According to article 1 of Annex VIII of UNCLOS, disputes concerning the interpretation or application of the articles of the Convention relating to "navigation, including pollution from vessels and by dumping" may be submitted to a special arbitral procedure provided for in that annex. Under article 2 of the same Annex the members of the special arbitral tribunal to deal with such disputes should be selected preferably from a list of experts established and maintained by IMO or by the appropriate subsidiary body to which IMO has delegated this function. In compliance with article 2 of Annex VIII of UNCLOS, IMO has invited all States Parties to the Convention at the moment of its entry into force and each State becoming Party thereafter, to nominate two experts to be included in the list of experts in the field of navigation, including pollution from vessels and by dumping. In response to this invitation, several States have nominated such experts.

In accordance with article 289 of UNCLOS, experts in the list established in accordance with article 2 of Annex VIII in connection with special arbitration procedures can be also selected to assist proceedings by courts or tribunals in connection with disputes related to navigation and pollution from vessels and by dumping.

Jurisdiction of courts or tribunals

The jurisdiction of court or tribunal referred to in article 287 of UNCLOS over disputes concerning the interpretation or application of the Convention also extends to the interpretation or application of an international agreement related to the purposes of the Convention, which is submitted to it in accordance with the agreement (UNCLOS, article 288). Reference to the possibility for the Parties concerned to use the dispute settlement procedures of UNCLOS is included in article 16 of the 1996 LC Protocol.

In accordance with Annex VI, article 22 of UNCLOS, the International Tribunal for the Law of the Sea may exercise jurisdiction over disputes concerning the interpretation or application of related treaties already in force, if all the parties to the treaty so agree. Agreements in this regard may be concluded by parties to IMO treaties in connection with any dispute regarding their interpretation or application.

Procedures in respect of violation of international antipollution rules and standards

Under article 223 of UNCLOS a State which institutes proceedings against a foreign vessel in respect of violations of international or national laws and regulations on marine pollution prevention is required to take measures to facilitate the hearing of witnesses and the admission of evidence submitted by, *inter alia*, "the competent international organization" (IMO). Such a State is also required to facilitate the attendance of such proceedings by "official representatives" of that organization, who shall have such rights and duties as may be provided for under national or international law.

The appropriate bodies of IMO may find it necessary to consider the procedures and arrangements required to enable IMO to intervene in such proceedings, including the criteria for determining when such an intervention would be appropriate and the procedure for designating the "official representatives" of the Organization.

Article 297(1) of UNCLOS specifies the situations where compulsory dispute settlement procedures entailing binding decisions as established in section II of part XV, apply also to disputes concerning the interpretation or application of the Convention with regard to the exercise by a coastal State of sovereign rights and jurisdiction. One such situation is where 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 the Convention or through a "competent international organization" (IMO) (article 297(1)(c)).

PART IV

THE IMPLEMENTATION OF IMO FUNCTIONS AND RESPONSIBILITIES IN THE LIGHT OF THE ENTRY INTO FORCE OF UNCLOS

General

Throughout this document an assessment has been provided of the existing functions and responsibilities of IMO within the general framework of international law as reflected in UNCLOS. Reference was made as appropriate to areas in respect of which IMO tasks could be expanded following the entry into force of the Convention.

This part endeavours to identify any such areas in order to determine whether there is a need for IMO to modify its work, or to extend the scope and purpose of its international regulations or procedures or to provide clearer or additional guidelines to States or other entities in implementing the provisions of the Convention.

Documentary and special precautionary requirements in respect of nuclear-powered ships and ships carrying nuclear or other inherently dangerous or noxious substances

Bearing in mind article 23 of UNCLOS, IMO may consider the adoption of multilateral agreements in relation to emergency preparedness and response arrangements in the event of an accident involving cargoes subject to the INF Code.

Routeing measures

IMO could extend its present role in connection with provisions in UNCLOS relating to the establishment of international rules and standards concerning routeing measures. In this regard, consideration may be given to identifying or establishing, as necessary, in addition to existing IMO Guidelines on ships' routeing:

- the recommendations which coastal States must take into account in prescribing traffic separation schemes or designating sea lanes in their territorial sea;
- the international regulations to which traffic separation schemes and sea lanes within straits used for international navigation and in archipelagic waters must conform;
- the procedures to be followed by coastal States wishing to refer proposals for traffic separation schemes or sea lanes in international straits or archipelagic waters to IMO for consideration and adoption, including procedures and arrangements to facilitate co-operation between two or more States in respect of sea lanes or traffic separation schemes through the waters of such States.

Construction, operation and use of artificial islands, installations and structures in the exclusive economic zone, and the removal of such installations and structures

IMO may consider the adoption of applicable international standards for determining the breadth of the safety zones as prescribed in article 60(5) of UNCLOS.

Procedures and requirements for bonding or other appropriate financial security in respect of vessels detained by a coastal or port State

Article 220(7) of UNCLOS obliges a coastal State which has detained a vessel for a violation of international regulations, or national laws, as appropriate, to allow the vessel to proceed if the vessel has complied with the requirements for bonding or other appropriate financial security and the coastal State is bound by the procedures establishing the requirements in question. The obligation for States to order the release of a ship upon provision of adequate financial security to cover for the liability of the shipowner is regulated in four IMO liability treaties, namely:

the Convention on Limitation of Liability for Maritime Claims, 1976 (article 13);

the International Convention on Civil Liability for Oil Pollution Damage, 1969 and the 1992 Protocol thereto (article VI);

the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996 (article 10); and

the International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001.

Article 220 also states that the appropriate procedures may be established through "the competent international organization" (IMO). Consideration may, therefore, be given to the possible establishment of procedures on provision of bonds or financial security and a suitable mechanism for establishing such procedures. In this regard it should be noted that article 292 of the Convention provides for a procedure under which an application may be made by or on behalf of the flag State of a vessel, if it is alleged that the vessel is being detained in contravention of the requirement of the Convention for prompt release, following the posting of a reasonable bond or other financial security. The existence of international procedures in this regard will, accordingly, be of some importance in the implementation of the dispute settlement arrangements in part XV of the Convention.

Role of IMO in proceedings against foreign vessels

Bearing in mind the provisions on jurisdiction (article 288) and the possibility for IMO to submit evidence and/or send official representatives to attend proceedings instituted in connection with pollution incidents (article 223), the appropriate bodies of IMO may consider the procedures and arrangements required to enable IMO to intervene in such proceedings, including the criteria for determining when such an intervention would be appropriate and the procedure for designating the "official representatives" of the Organization, as envisaged in the Convention.

Prevention of harmful consequences to vessels and the marine environment as a consequence of the exercise of enforcement powers by States

Article 225 of UNCLOS provides that States, when exercising measures of enforcement against foreign vessels, shall not endanger the safety of navigation or otherwise create any hazard to a vessel, or bring the vessel to an unsafe port or anchorage, or expose the marine environment to an unreasonable risk. Article 226 declares that States shall not delay a foreign vessel longer than is essential for purposes of the investigations provided for in the Convention. The article lays down the conditions and limits of physical inspections of a vessel, and provides for the release of the vessel, whether absolutely or on conditions, as may be appropriate. Paragraph 2 of article 226 provides that States shall co-operate to develop procedures for "the avoidance of unnecessary physical inspection of vessels at sea."

To the extent that it may be considered that any of the procedures envisaged in article 226(2) should be developed on the international plane, IMO would be the appropriate forum for that purpose. In this connection, reference may be made to the provisions in article 6 of MARPOL 73/78 relating to detection of violations and enforcement of the convention. Consideration may be given to whether these provisions provide an appropriate or suitable basis for the elaboration of the necessary international procedures in this regard.

Prevention of interference by marine scientific research installations or equipment with safety of navigation

Article 261 of UNCLOS states that 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 states that such installations or equipment shall bear identification markings 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". IMO would appear to be the most appropriate body for developing the international rules and standards to ensure safety at sea. Any work in this area needs to be undertaken in consultation with other international organizations concerned such as the International Civil Aviation Organization (ICAO), the International Telecommunication Union (ITU), the International Maritime Satellite Organization (INMARSAT), the Intergovernmental Oceanographic Commission (IOC), the International Hydrographic Organization (IHO) and the International Association of Lighthouse Authorities (IALA).

Possible role of IMO in the facilitation of appropriate publicity with respect to measures for the safety of navigation and the prevention of marine pollution

A number of articles of UNCLOS impose on States and other entities the obligation to provide publicity with regard to legislative or other measures taken by them, and to publicize information which may become available to them relating to safety of navigation or the prevention of pollution of the marine environment from vessels or by dumping. This publicity is to make States, seafarers and other interested persons aware of the measures or information in question and thus enable them to take appropriate and necessary steps either to prevent infringements of the laws and regulations, or to avoid any dangers which may be presented in particular situations. It is, therefore, essential that the publicity be given in a manner that ensures that the information provided will in fact reach those who are likely to be affected. In some cases the States or other entities required to provide publicity are also enjoined to make the information available to IMO. Even in cases where reference has been made to another body or bodies, some IMO involvement may be necessary, or at least helpful.

The articles of the Convention relating to "publicity", in respect of matters of possible interest to IMO, include the following:

- **Article 21(3):** the coastal State is required to give due publicity to its laws and regulations for the regulation of innocent passage in its territorial sea. The same provision applies to the laws and regulations relating to transit passage in straits used for international navigation (article 42(3)).
- **Article 22(4):** A coastal State is required to indicate clearly the sea lanes and traffic separation schemes in its territorial sea on charts to which "due publicity" is to be given. The same applies under article 41(6) in relation to transit passage in straits used for international navigation and under article 53(10) in respect of archipelagic sea lane passage.

- **Article 24(2):** The coastal State is required to give publicity to any danger to navigation within its territorial sea of which the State has knowledge. (The same obligation is imposed on States bordering straits used for international navigation under article 44).
- **Article 41(2):** Publicity should be given by States bordering straits used for international navigation in respect of sea lanes and traffic separation schemes adopted in such straits. The same obligation is imposed by article 53(7) in respect of sea lanes and traffic separation schemes in archipelagic waters.
- **Article 52(2):** An archipelagic State is required to give publicity in respect of suspensions of innocent passage in its archipelagic waters, and suspensions of innocent passage in the territorial sea (article 25(2)).
- **Article 60(3):** The coastal State is required to give publicity in respect of the depth, position and dimensions of installations or structures in its exclusive economic zone which are not entirely removed. (The same requirements apply in respect of similar installations in the continental shelf, article 80).
- **Article 60(3):** The coastal State is required to give publicity in respect of the extent of safety zones established around artificial islands, installations or structures in its exclusive economic zones. (The same requirement applies to safety zones on the continental shelf, article 80).
- **Article 211(3):** A coastal State which establishes particular requirements for the prevention, reduction and control of pollution of the marine environment as a condition for the entry of foreign vessels into its ports or internal waters or for a call at its offshore terminals, must give due publicity of such requirements.
- **Article 211(6):** A State which establishes special mandatory measures for marine pollution prevention in a clearly defined area of its exclusive economic zone (paragraph 6, subparagraphs (a) and (b); or adopts additional laws and regulations (paragraph 6, subparagraph (c)), must give due publicity to such measures.
- **Article 217(7):** A flag State is required to provide IMO with information in respect of action taken by it against a vessel flying its flag for violations of rules and standards adopted through IMO. IMO is required to make such information "available to all States".

In respect of all these provisions, it appears clear that the objective of publicity required will be effectively achieved only if the information in question reaches the States, authorities, entities and persons who are expected to be guided by the information. IMO maintains the most direct and continuing contact with the authorities of States concerned with safety of navigation and the prevention of vessel-source pollution. Accordingly the purpose of the publicity is likely to be served by some IMO involvement. To the extent that this involvement is considered necessary and appropriate, it may be useful to consider suitable arrangements by which the Organization may assist or co-operate with the States or international organizations concerned in ensuring that the publicity given by them will in fact reach the destinations for which it is intended.

IMO's involvement or co-operation in enhancing the effective dissemination of information on maritime safety and pollution prevention measures may even extend to cases in which responsibility for the publicity concerned may have been assigned to specific States or organizations by the Convention. For example, several articles of the Convention, in requiring that States give due publicity to legislation or other measures adopted by them, also stipulate that the information should

be deposited with the Secretary-General of the United Nations, who is the depositary of the Convention itself. In line with its normal practice in this regard, it must be assumed that the Secretariat of the United Nations will make information deposited with it available to all States concerned. But even in such cases, there may be a need for IMO's involvement in the further dissemination of information, particularly where the information in question may be of significance to ships' personnel or other persons operating in the marine environment who are required to take such information into account in order to safeguard safety or prevent pollution. IMO may therefore find it useful to consider how it might usefully co-operate with, or assist the United Nations, in making sure that the information will reach ships and other persons who may be in closer contact with IMO.

For example, article 147 of the Convention lays down certain conditions for the erection, emplacement and removal of installations used for carrying out activities in the Area, i.e. "the sea-bed and ocean floor and sub-soil thereof, beyond the limits of national jurisdiction". One of the conditions is that such installations should not interfere with the use of recognized sea lanes essential to international navigation. It is also provided that permanent means for giving warnings of their presence must be maintained, and safety zones shall be established around the installations, but in a way that does not impede "the lawful access of shipping to particular maritime zones or navigation along international sea lanes" (article 147(2)).

Also under article 16(2), States are required to give due publicity to the charts showing the baselines for measuring the breadth of their territorial sea, or the lists of geographical co-ordinates of points. Copies of such charts or lists are to be deposited with the Secretary-General of the United Nations. Similar requirements apply in respect of archipelagic baselines under article 47(9), in respect of the exclusive economic zone under Article 75. There is a similar provision regarding the continental shelf (article 84(2)). The primary responsibility for preparing and publicizing these charts will be for the States concerned, but IMO may be in a position to assist in cases where it is deemed that the information may be of relevance to maritime safety or pollution prevention. There is no doubt that some of the information to be publicized under these articles of the Convention can be of considerable relevance to flag States, shipowners and other persons involved in international shipping who will need the information in order fully to discharge their responsibilities and international obligations in respect of safety of navigation and pollution prevention. Accordingly, IMO has a legitimate interest in the most effective dissemination of the information involved. For the purposes of facilitating this effective dissemination of information, IMO may find it necessary or useful to establish mechanisms suitable for channelling, in particular cases, information to the authorities, institutions or persons directly affected. Any such involvement of IMO will, of course, be in full consultation with the Secretariat of the United Nations or other intergovernmental organizations concerned, or individual States, as appropriate. It is essential that any role that IMO may play should be such that it does not create unnecessary duplication or proliferation of information and communications on the same subject. Therefore, care should be taken to organize matters in such a way that all concerned recognize clearly that the role of IMO is complementary to the functions of the States, national institutions or international organizations concerned, and not in any way to be regarded as substitutes for those functions.

The development and transfer of marine technology and international co-operation

The basic objectives of international co-operation, as spelt out in articles 202 and 268, and especially the development of human resources through training and education for nationals of developing countries are already part of the fundamental aims of IMO and its Technical Co-operation Programme, as provided for in the IMO Convention and in the relevant decisions of the Organization's intergovernmental bodies. In implementing these aims, IMO may find it useful to expand the scope of the specific arrangements and measures suggested or envisaged in the relevant articles of UNCLOS, particularly those relating to the transfer of technology and the provision of assistance to developing countries in the maritime field.

Further avenues of co-operation among international organizations

Article 278 enjoins the competent international organizations to take all appropriate measures to ensure, either directly or in close co-operation among themselves, the effective discharge of their functions and responsibilities. In accordance with its Constitution and pursuant to decisions of its governing organs, IMO has established co-operative and fruitful arrangements for collaboration with the United Nations and the other agencies and organizations within the United Nations system. However, IMO has continued to explore appropriate avenues to promote and facilitate further co-operation with all international organizations whose activities may affect, or be affected by, the measures taken by the Organization with regard to matters dealt with by the Convention. Effective and co-ordinated liaison will also be needed with the International Sea-Bed Authority and the International Tribunal for the Law of the Sea. Any such liaison and co-operation will be subject to the relevant provisions of the Convention on the Law of the Sea, and in accordance with the view of the IMO Assembly that IMO might provide "advice and assistance" to the Preparatory Commission for the International Sea-Bed Authority "on matters falling within the competence of IMO". The Tribunal and the IMO have recently (July 2002) exchanged notes re-confirming the desire to maintain regular contact and cooperation.

Other possible roles for IMO in connection with the implementation of UNCLOS

In addition to the new or modified functions and responsibilities directly or indirectly imposed on IMO by UNCLOS, it may be necessary to consider what other possible roles, if any, may legitimately be played by IMO in connection with the implementation of the provisions of the Convention which deal with matters within the field of competence of IMO, particularly the provisions whose interpretation or application may be assisted by work within IMO. Reference may be made in this connection to the articles of the Convention which relate to safety at sea and the prevention of marine pollution, since many of these articles refer to or presuppose the existence of international regulations and standards adopted by IMO by reference to which States may implement the principles in UNCLOS.

As indicated above, many articles of UNCLOS stipulate that the powers and obligations of States are to be exercised or discharged by reference to "generally accepted" or "applicable" international regulations and standards. In some cases, the Convention expressly states that the international rules or regulations involved are those established by "the competent international organization" (IMO) or by "general diplomatic conference". Furthermore, in many other cases the Convention does not specify the rules and regulations which are to be deemed to be "generally accepted" or "applicable". It would therefore be necessary for the appropriate bodies of IMO to consider what guidelines IMO can usefully provide to States in this regard.

* * *

ANNEX I

**CONVENTIONS AND OTHER MULTILATERAL INSTRUMENTS
IN RESPECT OF WHICH THE INTERNATIONAL MARITIME
ORGANIZATION (IMO) PERFORMS FUNCTIONS**

[Note: This list is taken from C 86/15, Annex dated 28 February 2001]

ANNEX

The table appended to this annex gives, for each instrument, data on the number of States which have signed or accepted it, including the number of Member States which have not yet deposited the necessary instruments in each case.

- (1)(a) International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS (amended) 1974)

Entry into force:	25 May 1980
1981 amendments (MSC.1(XLV)) (subdivision, machinery and electrical installations, fire protection, radio-communications, navigation, carriage of grain)	1 September 1984
1983 amendments (MSC.6(48)) (subdivision, electrical installation, fire protection, life-saving appliances, radiocommunications, carriage of dangerous goods, IBC and IGC Codes)	1 July 1986
1988 amendments (MSC.11(55)) (ro-ro passenger ship door indicators and television surveillance)	22 October 1989
1988 amendments (MSC.12(56)) (passenger ship damage stability)	29 April 1990
1988 amendments (GMDSS) (Conference resolution 1)	1 February 1992
1989 amendments (MSC.13(57)) (subdivision, fire protection, radio-communications, navigation)	1 February 1992
1990 amendments (MSC.19(58)) (cargo ship subdivision and damage stability)	1 February 1992
1991 amendments (MSC.22(59)) (fire protection, life-saving appliances, navigation, carriage of cargoes, (Grain Code), carriage of dangerous goods)	1 January 1994

1992 amendments (MSC.24(60)) (existing passenger ship fire protection)	1 October 1994
1992 amendments (MSC.26(60)) (existing ro-ro passenger ship damage stability)	1 October 1994
1992 amendments (MSC.27(61)) (fire protection, life-saving appliances radiocommunications)	1 October 1994
1994 amendments (MSC.31(63))	
Annex 1 (ship reporting systems, emergency towing arrangements on tankers)	1 January 1996
Annex 2 (protection of fuel lines, navigation bridge visibility)	1 July 1998
1994 amendments (Conference resolution 1)	
Annex 1 (new chapter X - Safety measures for high speed craft, (HSC Code), new chapter XI - Special measures to enhance maritime safety)	1 January 1996
Annex 2 (new chapter IX - Management for the safe operation of ships, (ISM Code))	1 July 1998
1994 amendments (MSC.42(64)) (cargo information, loading, stowage and securing)	1 July 1996
1995 amendments (MSC.46(65)) (ships' routeing)	1 January 1997
1995 amendments (Conference resolution 1) (ro-ro passenger ship safety)	1 July 1997
1996 amendments (MSC.47(66)) (construction, subdivision and stability, life-saving appliances, (LSA Code), carriage of cargoes, authorization of recognized organizations)	1 July 1998
1996 amendments (MSC.57(67)) (construction; machinery and electrical installations; fire protection, fire detection and fire extinction (FTP Code); carriage of dangerous goods)	1 July 1998
1997 amendments (MSC.65(68)) (passenger ship subdivision and stability; vessel traffic services)	1 July 1999

1997 amendments (Conference resolution 1) (new chapter XII on bulk carrier safety)	1 July 1999
1998 amendments (MSC.69(69)) (construction; radiocommunications; carriage of cargoes; carriage of dangerous goods)	1 July 2002
1999 (chapter VII) amendments (MSC.87(71))	1 January 2001
2000 (chapter III) amendments (MSC.91(72)) (life-saving appliances and arrangements, form of certificates)	1 January 2002
2000 (chapters II-1, II-2, V, IX and X) amendments (MSC.99(73))	1 July 2002
2001 (chapter VII) amendments MSC.117(74))	[1 January 2003]
2002 (chapters IV, V, VI and VII and appendix to the Annex) amendments MSC.123(75))	[1 January 2004]

(1)(b) Codes and other instruments made mandatory under SOLAS:

International Code for the Construction and Equipment of Ships Carrying Dangerous
Chemicals in Bulk (IBC Code) (MSC.4(48))

Effective as from:	1 July 1986
1987 amendments (MSC.10(54)) (lists of chemicals)	30 October 1988
1989 amendments (MSC.14(57)) (lists of chemicals)	13 October 1990
1990 amendments (MSC.16(58)) (harmonized system of survey and certification)	3 February 2000
1992 amendments (MSC.28(61)) (list of chemicals, cargo tank venting and gas-freeing arrangements and other amendments)	1 July 1994
1996 amendments (MSC.50(66)) (lists of chemicals)	1 July 1998
1996 amendments (MSC.58(67)) (vague expressions)	1 July 1998
2000 (chapters 5, 8, 14, 15 and 16) amendments (MSC.102(73))	1 July 2002

International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code) (MSC.5(48))

Effective as from:	1 July 1986
1990 amendments (MSC.17(58)) (harmonized system of survey and certification)	3 February 2000
1992 amendments (MSC.30(61)) (cargo containment, fire protection, use of cargo as fuel, special requirements and summary of minimum requirements)	1 July 1994
1994 amendments (MSC.32(63)) (filling limits for cargo tanks)	1 July 1998
1996 amendments (MSC.59(67)) (reference to recognized standards, miscellaneous)	1 July 1998
2000 (chapters 3, 4, 5, 8, 9, 11, 13, 14 and 18) amendments (MSC.103(73))	1 July 2002

International Code for the Safe Carriage of Grain in Bulk (Grain Code) (MSC.23(59))

Effective as from: 1 January 1994

International Code of Safety for High-Speed Craft (HSC Code) (MSC.36(63))

Effective as from: 1 January 1996

2000 International Code of Safety for High-Speed Craft (HSC Code) (MSC.97(73)) 1 July 2002

2001 amendments (MSC.119(74)) [1 January 2003]

Guidelines on the Enhanced Programme of Inspections During Surveys of Bulk Carriers and Oil Tankers (resolution A.744(18))

Effective as from: 1 January 1996

1996 amendments (MSC.49(66))
(new annex on guidelines for technical assessment in conjunction with planning of surveys) 1 July 1998

1997 amendments (Conference resolution 2)
(new annex on requirements for extent of thickness measurement and associated amendments to the guidelines, new section on repairs relative to damages and wastage in holds) 1 July 1999

2000 amendments (MSC.105(73)) 1 July 2002

2002 amendments (MSC.125(75)) [1 January 2004]

International Management Code for the Safe Operation of Ships and for Pollution Prevention (International Safety Management (ISM) Code) (A.741(18))

Effective as from: 1 July 1998

2000 amendments (MSC.104(73)) 1 July 2002

International Life-Saving Appliances (LSA) Code (MSC.48(66))

Effective as from: 1 July 1998

International Code for Application of Fire Test Procedures (FTP Code) (MSC.61(67))

Effective as from: 1 July 1998

2000 amendments (Annexes I and II)
(MSC.101(73)) 1 July 2002

International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on Board Ships (INF Code) (MSC.88(71))

Effective as from 1 January 2001

2001 amendments (MSC.118(74)) [1 January 2003]

International Code for Fire Safety Systems (FSS Code) (MSC.98(73))

1 July 2002

(1)(c) Special rules drawn up by agreement under SOLAS:

Agreement concerning specific stability requirements for ro-ro passenger ships undertaking regular scheduled international voyages between or to or from designated ports in North West Europe and the Baltic Sea

1 April 1997

(2) Protocol of 1978 relating to the International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS PROT (amended) 1978)

Entry into force: 1 May 1981

1981 amendments (steering gear) (MSC.2(XLV)) 1 September 1984

1988 amendments (GMDSS) (Conference resolution) 1 February 1992

(3) Protocol of 1988 relating to the International Convention for the Safety of Life at Sea, 1974 (SOLAS PROT (HSSC) 1988)

Entry into force: 3 February 2000

2000 amendments (MSC.92(72)) 1 January 2002

2000 amendments (to the Annex) (MSC.100(73)) 1 July 2002

2002 amendments (MSC.124(75)) [1 January 2004]

- (4) Convention on the International Regulations for Preventing Collisions at Sea, 1972, as amended (COLREG (amended) 1972)

Entry into force:	15 July 1977
1981 amendments (general) (A.464(XII))	1 June 1983
1987 amendments (general) (A.626(15))	19 November 1989
1989 amendments (general) (A.678(16))	19 April 1991
1993 amendments (general) (A.736(18))	4 November 1995
2001 amendments (general) (A.910(22))	[1 May 2003]

- (5)(a) International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 relating thereto (MARPOL (amended) 73/78)

Entry into force:	2 October 1983
Annex I	2 October 1983
Annex II	6 April 1987
Annex III	1 July 1992
Annex IV	not yet in force
Annex V	31 December 1988
1984 (Annex I) amendments (MEPC.14(20)) (extensive amendments to Annex I which had been agreed over the years)	7 January 1986
1985 (Annex II) amendments (MEPC.16(22)) (extensive amendments to Annex II in preparation for its implementation - pumping, piping, control, etc. (IBC and BCH Codes))	6 April 1987
1985 (Protocol I) amendments (MEPC.21(22)) (Reporting Protocol)	6 April 1987
1987 (Annex I) amendments (MEPC.29(25)) (designation of the Gulf of Aden as a special area)	1 April 1989
1989 (Annex II) amendments (MEPC.34(27)) (lists of chemicals)	13 October 1990
1989 (Annex V) amendments (MEPC.36(28)) (designation of the North Sea as a special area)	18 February 1991
1990 (Annexes I and II) amendments (MEPC.39(29)) (harmonized system of survey and certification)	3 February 2000

1990 (Annexes I and V) amendments (MEPC.42(30)) (designation of the Antarctic area as a special area)	17 March 1992
1991 (Annex I) amendments (MEPC.47(31)) (new regulation 26 (Shipboard Oil Pollution Emergency Plan) and other amendments)	4 April 1993
1991 (Annex V) amendments (MEPC.48(31)) (designation of the Wider Caribbean area as a special area)	4 April 1993
1992 (Annex I) amendments (MEPC.51(32)) (discharge criteria)	6 July 1993
1992 (Annex I) amendments (MEPC.52(32)) (oil tanker design)	6 July 1993
1992 (Annex II) amendments (MEPC.57(33)) (lists of chemicals and the designation of the Antarctic area as a special area)	1 July 1994
1992 (Annex III) amendments (MEPC.58(33)) (total revision of Annex III with the IMDG code as a vehicle for its implementation)	28 February 1994
1994 (Annexes I, II, III and V) amendments (Conference resolutions 1-3) (Port State control on operational requirements)	3 March 1996
1995 (Annex V) amendments (MEPC.65(37)) (guidelines for garbage management plans)	1 July 1997
1996 (Protocol I) amendments (MEPC.68(38)) (Reporting Protocol)	1 January 1998
1997 (Annex I) amendments (MEPC.75(40)) (designation of North West European waters as a special area; new regulation 25A)	1 February 1999
1999 (Annexes I and II) amendments (MEPC.78(43)) (amendments to regulations 13G and 26 and IOPP Certificate of Annex I and addition of new regulation 16 to Annex II)	1 January 2001
2000 (Annex III) amendments (MEPC.84(44)) (deletion of clause relating to tainting of sea food)	1 January 2002
2000 (Annex V) amendments (MEPC.89(45)) (amendments to regulations 1, 3, 5 and 9 to the Record of Garbage Discharge)	1 March 2002

2001 (Annex I) amendments (MEPC.95(46))
amendments to regulation 13G of Annex I) 1 September 2002

(5)(b) Codes made mandatory under MARPOL 73/78:

International Code for the Construction and Equipment of Ships Carrying Dangerous
Chemicals in Bulk (IBC Code) (MEPC.19(22))

Effective as from:	6 April 1987
1989 amendments (MEPC.32(27)) (lists of chemicals)	13 October 1990
1990 amendments (MEPC.40(29)) (harmonized system of survey and certification)	3 February 2000
1992 amendments (MEPC.55(33)) (lists of chemicals, cargo tank venting and gas-freeing arrangements and other amendments)	1 July 1994
1996 amendments (MEPC.69(38)) (lists of chemicals)	1 July 1998
1997 amendments (MEPC.73(39)) (vague expressions)	10 July 1998
1999 amendments (MEPC.79(43)) (cargo-tank venting and gas-freeing arrangements)	1 July 2002
2000 amendments (MEPC.90(45)) (cargo transfer, personnel protection, special and operational requirements)	1 July 2002

Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk
(BCH Code) (MEPC.20(22))

Effective as from:	6 April 1987
1989 amendments (MEPC.33(27)) (lists of chemicals)	13 October 1990
1990 amendments (MEPC.41(29)) (harmonized system of survey and certification)	3 February 2000
1992 amendments (MEPC.56(33)) (lists of chemicals and other amendments)	1 July 1994
1996 amendments (MEPC.70(38)) (lists of chemicals)	1 July 1998

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|---|------------------|
| 1999 amendments (MEPC.80(43))
(cargo containment) | 1 July 2002 |
| 2000 amendments (MEPC.91(45))
(cargo containment, safety equipment, special requirements, operational requirements) | 1 July 2002 |
| (6) Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL PROT 1997) (Annex VI on the prevention of air pollution from ships) | |
| Not yet in force | |
| (7) Convention on Facilitation of International Maritime Traffic, 1965, as amended (FAL (amended) 1965) | |
| Entry into force: | 5 March 1967 |
| (a) Amendment to the Convention: | |
| 1973 amendment (amendment procedure) | 2 June 1984 |
| (b) Amendments to the Annex: | |
| 1969 amendments (cruise ships) | 12 August 1971 |
| 1977 amendments
(sick/injured/transit persons,
scientific services/relief work) | 31 July 1978 |
| 1986 amendments (ADP/EDI) | 1 October 1986 |
| 1987 amendments (FAL.1(17))
(upgrading of recommendations) | 1 January 1989 |
| 1990 amendments (FAL.2(19))
(drugs trafficking) | 1 September 1991 |
| 1992 amendments (FAL.3(21))
(restructuring of Annex, EDP/EDI,
specialized equipment) | 1 September 1993 |
| 1993 amendments (FAL.4(22))
(general) | 1 September 1994 |
| 1996 amendments (FAL.5(24))
(general/pre-import information/
pre-arrival clearance) | 1 May 1997 |
| 1999 amendments (FAL.6(27))
(definitions and general provisions/
arrival, stay, departure of ship/persons/
clearance of cargo, passengers, crew and
baggage/arrival, stay and departure of cargo/
clearance of cargo) | 1 January 2001 |

	2002 amendments (FAL.7(29)) (definitions and general provisions/ arrival, stay, departure of ship/ stowaways)	[1 May 2003]
(8)	International Convention on Load Lines, 1966 (LL 1966)	
	Entry into force:	21 July 1968
	1971 amendments (general) (A.231(VII))	not yet in force
	1975 amendment (article 29) (A.319(IX))	not yet in force
	1979 amendment (seasonal area) (A.411(XI))	not yet in force
	1983 amendments (seasonal area) (A.513(13))	not yet in force
	1995 amendment (seasonal area) (A.784(19))	not yet in force
(9)	Protocol of 1988 relating to the International Convention on Load Lines, 1966 (LL PROT (HSSC) 1988)	
	Entry into force:	3 February 2000
(10)	International Convention on Tonnage Measurement of Ships, 1969 (TONNAGE 1969)	
	Entry into force:	18 July 1982
(11)	International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969 (INTERVENTION 1969)	
	Entry into force:	6 May 1975
(12)	Protocol relating to Intervention on the High Seas in Cases of Pollution by Substances other than Oil, 1973, as amended (INTERVENTION PROT (amended) 1973)	
	Entry into force:	30 March 1983
	1991 amendments (list of substances) (MEPC.49(31))	24 July 1992
	1996 amendments (list of substances) (MEPC.72(38))	19 December 1997
(13)	International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC 1969)	
	Entry into force:	19 June 1975
(14)	Protocol to the International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC PROT 1976)	
	Entry into force:	8 April 1981

- (15) Protocol of 1992 to amend the International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC PROT 1992)
- Entry into force: 30 May 1996
- 2000 amendments (LEG.1(82)) [1 November 2003]
(amendments of the limitation amounts)
- (16) Special Trade Passenger Ships Agreement, 1971 (STP 1971)
- Entry into force: 2 January 1974
- (17) Protocol on Space Requirements for Special Trade Passenger Ships, 1973 (SPACE STP 1973)
- Entry into force: 2 June 1977
- (18) Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material, 1971 (NUCLEAR 1971)
- Entry into force: 15 July 1975
- (19) International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971 (FUND 1971)
- Entry into force: 16 October 1978
- (20) Protocol to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971 (FUND PROT 1976)
- Entry into force: 22 November 1994
- (21) Protocol of 1992 to amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971 (FUND PROT 1992)
- Entry into force 30 May 1996
- 2000 amendments (LEG.2(82)) [1 November 2003]
(amendments of limits of compensation)
- (22) International Convention for Safe Containers, 1972, as amended (CSC (amended) 1972)
- Entry into force: 6 September 1977
- (a) Amendments to the Convention and Annexes:
- 1993 amendments: (A.737(18)) not yet in force
(S.I. units)
- (b) Amendments to the Annexes:
- 1981 amendments 1 December 1981
(transitional arrangements for plating)

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| | 1983 amendments (MSC.3(48))
(re-examination intervals) | 1 January 1984 |
| | 1991 amendments (MSC.20(59))
(modified containers/tank containers) | 1 January 1993 |
| (23) | Athens Convention relating to the Carriage of Passengers and their Luggage by Sea, 1974
(PAL 1974) | |
| | Entry into force: | 28 April 1987 |
| (24) | Protocol to the Athens Convention relating to the Carriage of Passengers and their Luggage
by Sea, 1974 (PAL PROT 1976) | |
| | Entry into force: | 30 April 1989 |
| (25) | Protocol of 1990 to amend the Athens Convention relating to the Carriage of Passengers and
their Luggage by Sea, 1974 (PAL PROT 1990) | |
| | Not yet in force | |
| (26) | Convention on the International Maritime Satellite Organization (INMARSAT), as amended
(INMARSAT C (amended)) | |
| | Entry into force: | 16 July 1979 |
| | 1985 amendments
(aeronautical-satellite communications) | 13 October 1989 |
| | 1989 amendments
(land mobile-satellite communications) | 26 June 1997 |
| | 1994 amendments
(change of title, Council composition) | not yet in force |
| | 1998 amendments
(restructuring of the Organization) | 31 July 2001 |
| (27) | Operating Agreement on the International Maritime Satellite Organization (INMARSAT), as
amended (INMARSAT OA (amended)) | |
| | Entry into force: | 16 July 1979 |
| | 1985 amendments
(aeronautical-satellite communications) | 13 October 1989 |
| | 1989 amendments
(land mobile-satellite communications) | 26 June 1997 |
| | 1994 amendments
(change of title, Council composition) | not yet in force |

- 1998 amendments
(restructuring of the Organization) 31 July 2001
- (28) Convention on Limitation of Liability for Maritime Claims, 1976 (LLMC 1976)
- Entry into force: 1 December 1986
- (29) Protocol of 1996 to amend the Convention on Limitation of Liability for Maritime Claims, 1976 (LLMC PROT 1996)
- Not yet in force
- (30) Torremolinos Protocol of 1993 relating to the Torremolinos International Convention for the Safety of Fishing Vessels, 1977 (SFV PROT 1993)
- Not yet in force
- (31)(a) International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended (STCW (amended) 1978)
- Entry into force: 28 April 1984
- 1991 amendments (GMDSS and trials) (MSC.21(59)) 1 December 1992
- 1994 amendments (MSC.33(63))
(special training requirements
for personnel on tankers) 1 January 1996
- 1995 amendments (Conference resolution 1)
(revised Annex to Convention, (STCW Code)) 1 February 1997
- 1997 amendments (MSC.66(68))
(training and qualification requirements for
personnel on passenger ships) 1 January 1999
- (31)(b) Code adopted by STCW Conference:
- Seafarers' Training, Certification and Watchkeeping (STCW) Code
(Conference resolution 2)
- Part A - (Mandatory standards) effective as from: 1 February 1997
- 1997 amendments (MSC.67(68))
(training and qualification requirements for
personnel on passenger ships) 1 January 1999
- 1998 amendments (MSC.78(70))
(cargo handling and stowage at the operational
and management level) [1 January 2003]

- (32) International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel, 1995 (STCW-F)
- Not yet in force
- (33) International Convention on Maritime Search and Rescue, 1979 (SAR 1979)
- Entry into force: 22 June 1985
- 1998 amendments (MSC.70(69))
(revised Annex) 1 January 2000
- (34) Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (SUA 1988)
- Entry into force: 1 March 1992
- (35) Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms located on the Continental Shelf (SUA PROT 1988)
- Entry into force: 1 March 1992
- (36) International Convention on Salvage, 1989 (SALVAGE 1989)
- Entry into force 14 July 1996
- (37) International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990 (OPRC 1990)
- Entry into force 13 May 1995
- (38) International Convention on Liability and Compensation for Damage in connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996 (HNS 1996)
- Not yet in force
- (39) Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, as amended (LC (amended) 1972)
- Entry into force: 30 August 1975
- (a) Amendments to the Convention:
- 1978 amendments: (LDC.6(III))
(concerning procedures for the settlement of disputes) not yet in force
- (b) Amendments to the Annexes:
- 1978 amendments (LDC.5(III))
(concerning the control of incineration of wastes and other matter at sea) 11 March 1979

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| 1980 amendments (LDC.12(V))
(concerning the prohibition of dumping
at sea of crude oil and oily substances
and mixtures) | 11 March 1981 |
| 1989 amendments (LDC.37(12))
(concerning characteristics and
composition of matter to be dumped
at sea) | 19 May 1990 |
| 1993 amendments (LC.49(16))
(concerning phasing out sea disposal
of industrial waste) | 20 February 1994 |
| 1993 amendments (LC.50(16))
(concerning incineration at sea) | 20 February 1994 |
| 1993 amendments (LC.51(16))
(concerning disposal at sea of
radioactive wastes and other
radioactive matter) | 20 February 1994 |
| (40) 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of
Wastes and Other Matter, 1972 (LC PROT 1996) | |
| Not yet in force | |
| (41) 2000 Protocol on Preparedness, Response and Co-operation to Pollution Incidents by
Hazardous and Noxious Substances (OPRC/HNS PROT 2000) | |
| Not yet in force | |
| (42) 2000 Protocol to the International Convention on the Establishment of an International Fund
for Compensation for Oil Pollution Damage, 1971 | |
| Entry into force | 27 June 2001 |
| (43) International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 | |
| Not yet in force. | |
| (44) International Convention on the Control of Harmful Anti-Fouling Substances on
Ships, 2001 | |
| Not yet in force. | |

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22	Sea lanes and traffic separation schemes in the territorial sea	<p>Paragraph 2: Nuclear-powered ships and ships carrying dangerous cargo</p> <p>Paragraph 3: Duty of coastal States in establishing sea lanes and traffic separation schemes</p>	Reference to the recommendations of the "competent international organization"	SOLAS (regulation V/10) COLREG (rules 1 (d) and 10)) Res. A.572 (14)	IMO is the competent international organization.
		Paragraph 4: Duty to indicate sea lanes and traffic separation schemes on charts and duty of publicity		Res. A.572 (14)	Additional work may be undertaken wrt PSSA/special area requirements. (See Art 211.)
23	Foreign nuclear-powered ships and ships carrying nuclear or other inherently dangerous or noxious substances	Documentary requirements and special precautionary measures	Reference to "international agreements"	SOLAS (chapters VII and VIII) Code of Safety for Nuclear Merchant Ships IMO/IAEA Safety Recommendations on the Use of Ports by Nuclear Merchant Ships IMDG Code IBC Code IGC Code INF Code	

24	Duties of the coastal State	Paragraph 2: Publicity in respect of dangers to navigation	IMO's field of competence (safety of navigation) SOLAS V/4 Res. A.706(17)		
27	Criminal jurisdiction on board a foreign ship	Criminal activity	Prevention of unlawful acts against the safety of navigation	SUA SUA Protocol	Consider possible roles of IMO in prevention of terrorist acts against ships.

STRAITS USED FOR INTERNATIONAL NAVIGATION
(transit passage)

39	Duties of ships and aircraft during transit passage through straits used for international navigation (applicable also to archipelagic sea lanes passage according to article 54)	Paragraph 2: Compliance with international regulations on safety at sea and prevention and control of pollution from ships	Reference to "generally accepted international regulations, procedures and practices", "including the International Regulations for Preventing Collisions at Sea"	SOLAS COLREG Load Lines STCW MARPOL	
41	Sea lanes and traffic separation schemes in straits used for international navigation	Paragraph 3: Duty of States bordering straits in establishing sea lanes and traffic separation schemes	Reference to "generally accepted international regulations"	SOLAS V/8 (renumbered V/10 in 2000 amendments) COLREG (rules 1 (d) and 10) Res. A.572 (14)	

		<p>Paragraph 4: Duty to refer proposals concerning sea lanes or traffic separation schemes to the competent international organization</p> <p>Paragraph 5: Duty for States bordering straits to co-operate in formulating proposals for sea lanes or traffic separation schemes</p> <p>Paragraph 6: Duty to indicate sea lanes and traffic separation schemes on charts and duty of publicity</p>	<p>Reference to the "competent international organization"</p> <p>Reference to the "competent international organization"</p>	<p>SOLAS V/8 (renumbered as V/10 in 2000 amendments) COLREG (rules 1 (d) and 10) Res. A.572 (14)</p> <p>SOLAS V/8 (renumbered as V/10 in 2000 amendments)</p> <p>Res. A.572 (14) SOLAS V/8 (renumbered as V/10 in 2000 amendments)</p>	<p>IMO is the competent international organization.</p> <p>IMO is the competent international organization.</p>
42	<p>Laws and regulations of States bordering straits relating to transit passage</p> <p>(applicable also to archipelagic sea lanes passage according to article 54)</p>	<p>Paragraph 1: Matters concerning which the coastal State is entitled to adopt laws and regulations</p>	<p>Reference to the "generally accepted international regulations" on matters concerning safety at sea as provided in article 41, and to "applicable international regulations" within the scope of marine pollution</p>	<p>SOLAS COLREG Load Lines STCW MARPOL</p>	

43	Navigational and safety aids and other improvements and the prevention, reduction and control of pollution	Duty of user States and States bordering straits to co-operate by agreement	IMO's fields of competence (navigational aids and vessel-source pollution)	SOLAS V/14 (renumbered V/13 in 2000 amendments) Res. 857(20)	
44	Duties of States bordering straits (applicable also to archipelagic sea lanes passage according to article 54)	Publicity in respect of dangers to navigation	IMO's field of competence (safety of navigation)	SOLAS V/2 (renumbered as V/4 in 2000 amendments) Res. A.706(17)	

ARCHIPELAGIC STATES
(archipelagic sea lanes passage)

53	Right of archipelagic sea lanes passage	<p>Paragraph 8: Duty of archipelagic States in establishing sea lanes and traffic separation schemes</p> <p>Paragraph 9: Duty to refer proposals concerning sea lanes or traffic separation schemes to the competent international organization</p>	<p>Reference to "generally accepted international regulations"</p> <p>Reference to the "competent international organization"</p>	<p>SOLAS V/8 (renumbered as V/10 in 2000 amendments) COLREG (rules 1 (d) and 10) Res. A.572 (14) Res. A858(20) MSC.72(69)</p> <p>SOLAS V/8 (renumbered as V/10 in 2000 amendments) COLREG (rules 1 (d) and 10) Res. A.572 (14) Res. A858(20) MSC.72(69)</p>	<p>IMO is the competent international organization</p>
		<p>Paragraph 10: Duty to indicate sea lanes and traffic separation schemes on charts and duty of publicity</p>		<p>SOLAS V/8 (renumbered as V/10 in 2000 amendments) Res. A.572(14) Res. A.858(20) MSC.72(69)</p>	<p>IMO is the competent international organization.</p>

EXCLUSIVE ECONOMIC ZONE

60	Artificial islands, installations and structures in the EEZ	Paragraph 3: Duty to remove abandoned or disused artificial islands, installations or structures, and duty of publicity with respect to their partial removal	Reference to "generally accepted international standards" established by the "competent international organization"	Res. A.672(16) London Convention (article III, and annex 17)	The notification of the partial removal but also of the non-removal should be forwarded to IMO.
		Paragraph 4: Safety zones around the artificial islands, installations or structures Paragraph 5: Breadth of the safety zones, and duty of publicity with respect to the extent of the safety zones Paragraph 6: Navigation in the vicinity of artificial islands, installations, structures and safety zones	IMO's field of competence (safety of navigation) Reference to "applicable international standards" and to "generally accepted international standards" or as recommended by the "competent international organization" Reference to "generally accepted international standards"	Res. A.671(16) Res. A.671(16) Res. A.671(16)	The coastal State is responsible for the dissemination of information.

		Paragraph 7 : Non interference with recognized sea lanes essential to international navigation	IMO's field of competence (safety of navigation)	Res. A.671(16) Res. A.572(14)	
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CONTINENTAL SHELF

80	Artificial islands, installations and structures on the continental shelf				Same as in relation to article 60 of UNCLOS
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HIGH SEAS

91 & 92	Nationality of ships and status of ships	Registration of ships	Prevention of unlawful acts against safety of navigation	SUA SUA Protocol Intervention 1969 Intervention Prot 1973	IMO may look into this aspect of ship safety when considering issues relating to piracy and terrorism
94	Duties of the flag State (applicable also to the EEZ as far as compatible with the EEZ regime according to article 58 (2))	Paragraph 1: Flag State jurisdiction with respect to administrative, technical and social matters			
		Paragraph 3: Measures to ensure safety at sea on the following matters:	Reference to "generally accepted international regulations, procedures and practices" according to article 94 (5)	SOLAS Load Lines COLREG MARPOL STCW STCW-F	1. The flag State shall, as appropriate, comply with non- binding IMO instruments (res. A.739(18), A.740(18), A.741(18)). 2. IMO rules and standards represent the minimum requirements <i>vis-à-vis</i> flag State jurisdiction.

		(a) Construction, equipment and seaworthiness of ships	As above	SOLAS Load Lines SFV MARPOL	
		(b) Manning of ships	Reference to "applicable international instruments"	STCW STCW-F SOLAS	
		(c) Signals, communications and prevention of collisions	Reference to "generally accepted international regulations, procedures and practices" according to article 94 (5)	SOLAS COLREG Code of Signals	
		Paragraph 4: The above measures shall include the following:	As above		
		(a) Survey of ships and duty to carry charts, nautical publications, instruments and equipment	As above	SOLAS MARPOL	
		(b) Technical qualification of the master, officers, and crew	Reference to "applicable international regulations"	SOLAS STCW STCW-F	

		(c) Qualification of the master, officers, and crew in maritime law	Reference to "generally accepted international regulations, procedures and practices" according to article 94 (5)	SOLAS STCW STCW-F	
		Paragraph 7: Duty of the flag State to conduct an investigation of any casualty occurring to its ships	IMO's field of competence	SOLAS (regulation I/21) Load Lines (article 23) MARPOL art. 6(4) and art. 12 Res. A.637(16)	1. The duty to investigate under relevant IMO regulations is limited to the purpose of determining the need for any changes to the pertinent convention.
98	Duty to render assistance	Paragraph 1: Duty of the master to render assistance to persons and ships Paragraph 2: Duty of the coastal State to promote search and rescue services	IMO's field of competence IMO's field of competence	Salvage SOLAS V/33 SAR SOLAS V/7 GMDSS	
100	Piracy	Duty of States to co-operate in the repression of piracy	IMO's field of competence (navigational and environmental risk)	Res. A.738 (18)	
108	Illicit traffic in narcotic drugs or psychotropic substances	Duty of co-operation for the suppression of illicit drug-trafficking	IMO's field of competence (facilitation of maritime traffic)	FAL Res. A.872(20)	1. FAL is applicable only within the jurisdiction of the port State.

THE AREA

142	Rights and legitimate interests of coastal States	Right of coastal States to take proportionate measures beyond the territorial sea to avoid pollution resulting from or caused by any activities in the Area		Intervention Convention 1973 Intervention Protocol	
163	Organs of the Council (International Sea-bed Authority)	Paragraph 13: Each Commission may consult any competent organ of the United Nations or of its specialized agencies	Reference to the specialized agencies of the United Nations		IMO is a specialized agency of the United Nations.

PROTECTION AND PRESERVATION OF THE MARINE ENVIRONMENT

197	Co-operation on a global or regional basis	Duty of States to co-operate on a global or regional basis directly or through competent international organization, in elaborating international anti-pollution standards	Reference to "competent international organizations"		IMO is a competent international organization.
198	Notification of imminent or actual damage	Duty of States to notify other States and the competent international organizations in cases of imminent or actual damage	Reference to "competent international organizations"	OPRC OPRC PROT 2000	IMO is a competent international organization.

199	Contingency plans against pollution	Duty of affected States and the competent international organizations to co-operate in eliminating the effects of pollution and preventing or minimizing damage	Reference to "competent international organizations"	OPRC OPRC PROT 2000 MARPOL Annex I, reg. 26 & Annex II, Reg. 16	IMO is a competent international organization.
200	Studies, research programmes and exchange of information and data	Duty of States to co-operate through competent international organizations, for the purpose of promoting studies, undertaking programmes of scientific research and encouraging the ex-change of information and data	Reference to "competent international organizations"		IMO is a competent international organization.
201	Scientific criteria for regulations	Duty of States to co-operate through competent international organizations in establishing appropriate scientific criteria for the formulation of international anti-pollution standards	Reference to "competent international organizations"		IMO is a competent international organization.

202	Scientific and technical assistance to developing States	Duty of States to provide scientific and technical assistance to developing States for the protection and preservation of the marine environment	Reference to "competent international organizations"	IMO convention and specific treaty obligations under MARPOL, London Convention, OPRC, OPRC PROT 2000, STCW	1. IMO is a competent international organization. 2. IMO's programme for technical co-operation and assistance for developing States.
203	Preferential treatment for developing States	Granting of preferential treatment to developing States by international organizations	Reference to "international organizations"		IMO may take these guidelines into account when implementing the duty on technical assistance.
204 to 206	Monitoring and environmental assistance	Monitoring of the risks or effects of pollution, publication of reports, assessment of potential effects of activities	Reference to "competent international organizations"		IMO's participation and contribution to GESAMP.
208 (also article 214 with respect to enforcement)	Pollution from seabed activities and from artificial islands, installations and structures subject to national jurisdiction	Establishment by States, through competent international organizations, of international regulations	Reference to "competent international organizations"	Res. A.671(16) Res. A.672(16) OPRC OPRC PROT 2000	Partly covered in MARPOL 73/78, Anex I, reg. 21. Further regulation of offshore activities is under discussion (but not agreed at this time). Pollution directly arising from exploration/exploitation is however not the direct concern of IMO, the Organization may contribute to the establishment of international regulations, especially within the London Convention.

210	Pollution by dumping	Paragraph 4: Adoption by States, through the competent international organization, of global rules, standards and recommended practices and procedures	Reference to "competent international organizations"	London Convention Resolution of the Consultative Meetings of Contracting Parties	1. IMO is a competent international organization. 2. The Consultative Meeting concluded that there were no fundamental inconsistencies between UNCLOS and the London Convention.
211	Pollution from vessels	Paragraph 1: Adoption by States, through the competent international organization, of international rules and standards concerning vessel-source pollution, and promotion of routing systems to minimize marine pollution	Reference to the "competent international organization"	MARPOL SOLAS V/8 (renumbered as V/10 in 2000 amendments) Res. A.572(14) Res. A.858(20)	IMO is the competent international organization for establishing international rules and standards on vessel-source pollution.
		Paragraph 2: Duty of flag States to adopt laws and regulations on vessel-source pollution	Reference to "generally accepted international rules and standards established through the competent international organization"	MARPOL	1. IMO is the competent international organization. 2. National legislation shall have at least the same effect as MARPOL, which represents the minimum standards for flag States.

		<p>Paragraph 3: Duty of States to give due publicity and to communicate to the competent international organization their particular port entry requirements</p> <p>Paragraph 5: Adoption by coastal States of laws and regulations for the prevention of vessel-source pollution in their EEZ conforming to generally accepted international rules and standards established through the competent international organization</p>	<p>Reference to the "competent international organization"</p> <p>Reference to "generally accepted international rules and standards established through the competent international organization"</p>	<p>MARPOL</p>	<p>1. IMO is the competent international organization.</p> <p>IMO is the competent international organization for establishing international rules and standards concerning vessel-source pollution.</p>
		<p>Paragraph 6: Particular, clearly defined area for the prevention of vessel-source pollution in the coastal State's EEZ</p> <p>Paragraph 6 a) Requirements and procedures to obtain recognition of a particular, clearly defined area</p>	<p>Reference to "consultations through the competent international organization with any other States concerned"</p>	<p>MARPOL Res. A.720 (17) (Revised by A.927(22))</p>	<p>MEPC 46 (2001) revised the guidelines for designation of Special Areas and the identification of Particularly Sensitive Sea Areas.</p> <p>IMO is the competent international organization.</p>

		<p>Paragraph 6 c) Additional laws and regulations for the particular, clearly defined area on discharges or navigational practices</p> <p>Paragraph 7: International rules and standards under article 211 include those relating to notification to coastal States in cases of incidents or maritime casualties</p>	<p>Reference to "generally accepted international rules and standards" on the design, construction, manning or equipment of ships</p> <p>This paragraph complements article 211(1)</p>	<p>SOLAS Load Lines MARPOL STCW</p> <p>MARPOL (article 8) and Protocol I OPRC (article 4)</p>	<p>The generally accepted international regulations represent the highest standards.</p> <p>IMO is the competent international organization for establishing international rules and standards concerning prompt notification of coastal States affected by pollution incidents.</p>
212	Pollution from or through the atmosphere	<p>Paragraph 1: National legislation must take into account internationally agreed regulations</p> <p>Paragraph 3: Establishment of global and regional rules, standards through competent international organizations</p>	<p>Reference to "internationally agreed rules, standards and recommended practices and procedures"</p> <p>Reference to "competent international organizations"</p>	<p>MARPOL Annex VI (1997) (with the development of an IMO strategy for the emission of climate gases from ships)</p>	<p>IMO is competent for establishing global rules and standards</p>

216	Enforcement with respect to pollution by dumping	Enforcement of national legislation and applicable international regulations adopted through competent international organizations	Reference to "applicable international rules and standards" established through "competent international organizations"	London Convention	IMO is a competent international organization.
217	Flag State enforcement	<p>Paragraph 1: Duty of flag States to ensure compliance by their vessels with international regulations</p> <p>Paragraph 2: Prohibition of sailing</p> <p>Paragraph 3: Carry and inspection of certificates</p>	<p>Reference to the "applicable international rules and standards, established through the competent international organization".</p> <p>Mention of the international rules and standards referred to in paragraph 1 including those of design, construction, equipment and manning of ships.</p> <p>Mention of the international rules and standards mentioned in paragraph 1.</p>	<p>MARPOL</p> <p>SOLAS Load Lines MARPOL STCW</p> <p>MARPOL</p>	<p>1. IMO is the competent international organization for establishing rules and standards on vessel-source pollution. 2. The flag State shall enforce MARPOL as far as "applicable".</p> <p>Same as above.</p> <p>Same as above.</p>

		Paragraph 4: Investigation and institution of proceedings with respect to an alleged violation	Reference to "rules and standards established through the competent international organization"	MARPOL (article 4)	IMO is the competent international organization for establishing rules and standards on vessel-source pollution.
		Paragraph 7: Duty of flag States to inform the competent international organization of the action taken	Reference to the "competent international organization"	MARPOL (article 4)	IMO is the competent international organization.
218	Port State enforcement	Paragraph 1: Investigations and proceedings by the port State against a vessel within its port or off-shore terminal with respect to a discharge violation outside its jurisdictional waters.	Reference to discharges in violation of "applicable international rules and standards established through the competent international organization"	MARPOL	1. IMO is the competent international organization for establishing international regulations on ships' discharges. 2. The port State may enforce MARPOL as far as "applicable" to that State.
219	Measures relating to seaworthiness of vessels to avoid pollution	Duty of States to take administrative measures on vessels within their port or offshore terminal in violation of seaworthiness standards and thereby threatening pollution damage	Reference to "applicable international rules and standards relating to seaworthiness of vessels"	MARPOL SOLAS Load Lines COLREG STCW	

220	Enforcement by coastal States	<p>Paragraph 1: Institution of proceedings by the coastal State against a vessel within its port or off-shore terminal with respect to any violation occurred in its territorial sea or EEZ</p> <p>Paragraph 7: Duty of the coastal State to allow the vessel to proceed if the vessel assures compliance with requirements for bonding or other financial security.</p>	<p>Reference to "applicable international rules and standards for the prevention, reduction and control of pollution from vessels".</p> <p>Reference to the "competent international organization".</p>	MARPOL	<p>The coastal State may enforce MARPOL as far as "applicable" to that State.</p> <p>IMO is the competent international organization.</p>
221	Measures to avoid pollution arising from maritime casualties	Right of States to take proportionate measures beyond the territorial sea to avoid pollution arising from maritime casualties		Intervention Convention 1973 Intervention Protocol	
222	Enforcement with respect to air pollution	Duty of States to adopt laws and regulations to implement applicable international rules and standards established through competent international organizations concerning air-pollution	Reference to "applicable international rules and standards established through competent international organizations"	Annex VI to MARPOL	IMO is a competent international organization.

223	Institution of proceedings	Submission of evidence and attendance of official representatives at the proceedings taken against a vessel	Reference to "competent international organization"		IMO is a competent international organization.
226	Investigation of foreign vessels	Avoidance of unnecessary physical inspection of vessels and limits of such inspection	Reference to "generally accepted international rules and standards" and to "applicable laws and regulations or international rules and standards"	MARPOL	
228	Suspension and restrictions on institution of proceedings	Special suspension and restriction conditions on proceedings to impose penalties	Reference to applicable international rules and standards relating to vessel-source pollution	MARPOL	
230	Monetary penalties and the observance of recognized rights of the accused		Reference to applicable international rules and standards relating to vessel-source pollution	MARPOL	
231	Notification to the flag State and other States concerned			MARPOL article 5(3)	
233	Safeguards with respect to straits used for international navigation	Right of States bordering straits to take enforcement measures against foreign	Reference to "the laws and regulations referred to in article		

		ships which have violated safety and anti-pollution standards, causing or threatening damage to the marine environment of straits.	42, paragraph 1 (a) and (b)"		
235	Responsibility and liability	Duty of co-operation for the development of international law on responsibility and liability for the assessment of and compensation for damage and the settlement of disputes		CLC Convention and Protocols Fund Convention and Protocols HNS Convention Bunkers Convention (2001)	
237	Obligations under the conventions on the protection and preservation of the marine environment	Non-prejudice clause and duty of consistency of special conventions with UNCLOS	Reference to the conventions on the protection and preservation of the marine environment	MARPOL London Convention Intervention OPRC CLC FUND HNS	IMO conventions on the protection of the marine environment reflect principles compatible with UNCLOS.

MARINE SCIENTIFIC RESEARCH

242-244	International Co-operation	Promotion of international co-operation, publication and dissemination of information and knowledge	Reference to "competent international organizations"	MARPOL 1996 Protocol to the London Convention	IMO is a competent international organization.
261	Non-interference with shipping routes	The deployment and use of any type of scientific research installations or equipment must not interfere with established international shipping routes			
262	Identification markings and warning signals	Duty to place identification markings on installations or equipment and to use adequate warning signals to ensure safety of navigation	Reference to "rules and standards established by competent international organizations"		IMO may be the most appropriate body for developing international rules and standards on warning signals. (Resolutions A.671(17) and A.672(17) on offshore installations have some relevance.)

DEVELOPMENT AND TRANSFER OF MARINE TECHNOLOGY

268	Basic objectives		Reference to "competent international organizations"		The pertinent objectives of the transfer of technology are part of the ITCP.
269 to 272	Measure and arrangement to achieve the basic objectives		Reference to "competent international organizations"		IMO may refer to some of the specific arrangements and measures envisaged in UNCLOS.

275 to 277	National and regional marine scientific and technological centres		Reference to "competent international organizations"		
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SETTLEMENT OF DISPUTES

288	Compulsory procedures entailing binding decisions	Jurisdiction of courts or tribunals	Reference to the "interpretation or application of an international agreement related to the purposes of this Convention"	1996 Protocol to the London Convention	The 1996 Protocol to the London Convention is the only IMO convention which permits parties to use the dispute settlement procedures of UNCLOS.
292	Prompt release of vessels and crews	Submission by the flag State to a court or tribunal for release of a vessel or its crew if the detaining State has not complied with provisions for prompt release of the vessel or its crew upon the posting of a bond or financial security			
297	Limitations on applicability of section 2 (dealing with compulsory procedures entailing binding decisions)	Paragraph 1 (c): Disputes concerning the interpretation or application of UNCLOS arising from an alleged contravention by a coastal State of specified anti-pollution standards shall be subject to the compulsory procedures entailing	Reference to applicable "international rules and standards for the protection and preservation of the marine environment " which have been established "through a	MARPOL London Convention	In certain cases, IMO anti-pollution standards may be subject to compulsory procedures entailing binding decisions.

		binding decisions established in section 2	competent international organization"		
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FINAL PROVISIONS

311	Relation to other conventions and international agreements	UNCLOS shall not alter international agreements compatible with the Convention or expressly permitted by the Conventions' provisions		IMO's treaties and other international regulations	
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ANNEXES

Annex VI article 22	Competence of the International Tribunal of the Law of the Sea	Reference of disputes subject to other agreements	Reference to "a treaty or convention already in force and concerning the subject-matter covered by this Convention"	IMO treaties in force related to the purposes of UNCLOS	Parties to the treaty may agree to have recourse to the Tribunal.
Annex VIII article 2	List of experts	List of experts in the field of navigation, including pollution from vessels and by dumping	Reference to the "International Maritime Organization"		