A summary of IMO Conventions 2009

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Maritime Safety

International Convention for the Safety of Life at Sea (SOLAS), 1974

1974 version
Adoption: 1 November 1974
Entry into force: 25 May 1980

The SOLAS Convention is regarded as the most important of all international treaties concerning the safety of merchant ships. The first version was adopted in 1914, in the wake of the Titanic disaster of 1912, the second in 1929, the third in 1948 and the fourth in 1960 – the first under the auspices of IMO.

The 1960 Convention required positive acceptance of amendments – which proved to be very slow. Therefore, the 1974 convention incorporated the tacit acceptance procedure. Instead of requiring that an amendment shall enter into force after being accepted by, for example, two thirds of the Parties, the tacit acceptance procedure provides that an amendment shall enter into force on a specified date unless, before that date, objections to the amendment are received from an agreed number of Parties. As a result the 1974 Convention has been updated and amended on numerous occasions. The Convention in force today is sometimes referred to as SOLAS 1974, as amended.

Amendment procedure
Article VIII states that amendments can be made either:

- **After consideration within IMO**
  Amendments proposed by a Contracting Government are circulated at least six months before consideration by the Maritime Safety Committee (MSC) - which may refer discussions to one or more IMO Sub-Committees - and amendments are adopted by a two-thirds majority of Contracting Governments present and voting in the MSC. Contracting Governments of SOLAS, whether or not Members of IMO are entitled to participate in the consideration of amendments in the "expanded MSC".

- **Amendments by a Conference**
  A Conference of Contracting Governments is called when a Contracting Government requests the holding of a Conference and at least one-third of Contracting Governments agree to hold the Conference. Amendments are adopted by a two-thirds majority of Contracting Governments present and voting.

In the case of both a Conference and the expanded MSC, amendments to the Annex (other than to Chapter I) are deemed to have been accepted at the end of a set period of time following communication of the adopted amendments to Contracting Governments, unless a specified number of Contracting Governments object. The length of time from communication of amendments to deemed acceptance is set at two years unless another period of time - which must not be less than one year - is determined by two-thirds of Contracting Governments at the time of adoption. Amendments to an article of the Convention or to Chapter I are deemed accepted after positive acceptance by two-thirds of Contracting Governments. Amendments enter into force six months after their deemed acceptance.

The minimum length of time from circulation of proposed amendments through entry into force is 24 months - circulation: six months, adoption to deemed acceptance date: 12 months minimum; deemed acceptance to entry into force: six months. A resolution adopted in 1994 makes provision for an accelerated amendment procedure to be used in exceptional circumstances - allowing for the length of time from communication of amendments to deemed acceptance to be cut to six months in exceptional circumstances when this is decided by a Conference.
Technical provisions
The main objective of the SOLAS Convention is to specify minimum standards for the construction, equipment and operation of ships, compatible with their safety. The flag State (the “Administration”) is responsible for ensuring that ships under their flag comply with its requirements and ships are required to carry certificates as proof that this has been done.

Control provisions allow Contracting Governments to inspect ships of other Contracting States if there are clear grounds for believing that the ship and its equipment do not substantially comply with the requirements of the Convention (port State control).

The SOLAS Convention includes articles setting out general obligations, amendment procedure and so on, followed by an annex divided into 12 chapters:

Chapter I - General Provisions
Includes regulations concerning survey of ships, the issuing of certificates and provisions for the control of ships in ports of other Contracting Governments.

Chapter II-1 - Construction - Subdivision and stability, machinery and electrical installations
The subdivision of passenger ships into watertight compartments must be such that after assumed damage to the ship’s hull the vessel will remain afloat and stable. It includes requirements for watertight integrity and bilge pumping arrangements for passenger ships well as stability requirements for both passenger and cargo ships.

The degree of subdivision - measured by the maximum permissible distance between two adjacent bulkheads - varies with ship’s length and the service in which it is engaged. The highest degree of subdivision applies to passenger ships. Requirements covering machinery and electrical installations are designed to ensure that services which are essential for the safety of the ship, passengers and crew are maintained under various emergency conditions.

Chapter II-2 - Fire protection, fire detection and fire extinction
Includes detailed fire safety provisions for all ships and specific measures for passenger ships, cargo ships and tankers. They include the following principles: division of the ship into main vertical and horizontal zones by thermal and structural boundaries; separation of accommodation spaces from the remainder of the ship by thermal and structural boundaries; restricted use of combustible materials; detection of any fire in the zone of origin; containment and extinction of any fire in the space of origin; protection of the means of escape and access for fire-fighting purposes; ready availability of fire-extinguishing appliances; minimization of the possibility of ignition of flammable cargo vapour. The International Code for the Application of Fire Test Procedures (FTP Code) and the International Fire Safety Systems (FSS) Code are mandatory.

Chapter III - Life-saving appliances and arrangements
Includes requirements for life-saving appliances and arrangements, including life jackets, life boats and so on, for all ships and for specific ship types. The International Life-Saving Appliance (LSA) Code is mandatory.

Chapter IV – Radiocommunications
Incorporates the Global Maritime Distress and Safety System (GMDSS) and includes requirements for ships to carry equipment designed to improve the chances of rescue following an accident, including satellite emergency position indicating radio beacons (EPIRBs) and search and rescue transponders (SARTs) for the location of the ship or survival craft. Regulations in Chapter IV cover undertakings by contracting governments to provide radiocommunication services as well as ship requirements for carriage of radiocommunications equipment. The Chapter is closely linked to the Radio Regulations of the International Telecommunication Union.
Chapter V - Safety of navigation
Chapter V identifies certain navigation safety services which should be provided by Contracting Governments and sets forth provisions of an operational nature applicable in general to all ships on all voyages. The subjects covered include the maintenance of meteorological services for ships; the ice patrol service; routeing of ships; and the maintenance of search and rescue services. The Chapter also includes a general obligation for masters to proceed to the assistance of persons in distress and for Contracting Governments to ensure that all ships shall be sufficiently and efficiently manned from a safety point of view.

Chapter VI - Carriage of Cargoes
Covers all types of cargo (except liquids and gases in bulk) "which, owing to their particular hazards to ships or persons on board, may require special precautions". The regulations include requirements for stowage and securing of cargo or cargo units (such as containers). The chapter requires cargo ships carrying grain to comply with the International Grain Code.

Chapter VII - Carriage of dangerous goods
The regulations are contained in four parts: Part A - Carriage of dangerous goods in packaged form - includes provisions for the classification, packing, marking, labelling and placarding, documentation and stowage of dangerous goods. The International Maritime Dangerous Goods (IMDG) Code is mandatory. Part A-1 – Carriage of dangerous goods in solid form in bulk - covers the documentation, stowage and segregation requirements for these goods and requires reporting of incidents involving such goods. Part B - Construction and equipment of ships carrying dangerous liquid chemicals in bulk - requires chemical tankers built after 1 July 1986 to comply with the International Bulk Chemical Code (IBC Code). Part C - Construction and equipment of ships carrying liquefied gases in bulk - requires gas carriers constructed after 1 July 1986 to comply with the International Gas Carrier Code (IGC Code). Under part D, the Code for the Safe Carriage of Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes in Flasks on Board Ships (INF Code) is mandatory.

Chapter VIII - Nuclear ships
Includes requirements for nuclear ships and is particularly concerned with radiation hazards. It refers to the Code of Safety for Nuclear Merchant Ships.

Chapter IX - Management for the Safe Operation of Ships
Makes mandatory the International Safety Management (ISM) Code, which requires a safety management system to be established by the shipowner or any person who has assumed responsibility for the ship (the "Company").

Chapter X - Safety measures for high-speed craft

Chapter XI-1 - Special measures to enhance maritime safety
Clarifies requirements relating to authorization of recognized organizations (responsible for carrying out surveys and inspections on Administrations' behalves); enhanced surveys; ship identification number scheme; and port State control on operational requirements.

Chapter XI-2 - Special measures to enhance maritime security
Makes mandatory the International Ship and Port Facilities Security Code (ISPS Code). Part A of the Code is mandatory and part B contains guidance. All ships must be provided with a ship security alert system. Regulation XI-2/4 confirms the role of the Master in exercising his professional judgement over decisions necessary to maintain the security of the ship. Amongst other regulations, while other regulations cover requirements for port facilities, the provision of information to IMO, the control of ships in port and the specific responsibility of Companies.

Chapter XII - Additional safety measures for bulk carriers
Includes structural requirements for new bulk carriers over 150 metres in length built after 1 July 1999 carrying cargoes with a density of 1,000 kg/m³ and above and includes specific structural requirements for bulk carriers built before 1999 carrying cargoes with a density of 1,780 kg/m³.
and above - these include cargoes such as iron ore, pig iron, steel, bauxite and cement. Cargoes with a density above 1,000 kg/m$^3$ but below 1,780 kg/m$^3$ include grains, such as wheat and rice, and timber.

**Major amendments to SOLAS adopted since 1974**

**The Protocol of 1978**

*Adoption*: 17 February 1978  
*Entry into force*: 1 May 1981

The 1978 Protocol was adopted at the International Conference on Tanker Safety and Pollution Prevention, which was convened in response to a spate of tanker accidents in 1976-1977. The conference adopted measures affecting tanker design and operation, which were incorporated into the SOLAS Protocol of 1978 as well as the Protocol of 1978 relating to the 1973 International Convention for the Prevention of Pollution from Ships (1978 MARPOL Protocol).

**The 1981 amendments**

*Adoption*: 20 November 1981  
*Entry into force*: 1 September 1984

Chapters II-1 and II-2 re-written and updated.

**The 1983 amendments**

*Adoption*: 17 June 1983  
*Entry into force*: 1 July 1986


**The 1988 (April) amendments**

*Adoption*: 21 April 1988  
*Entry into force*: 22 October 1989

New regulations in Chapter II-1 intended to improve monitoring of doors and cargo areas and to improve emergency lighting in wake of *Herald of Free Enterprise* disaster.

**The 1988 (October) amendments**

*Adoption*: 28 October 1988  
*Entry into force*: 29 April 1990

Further amendments following *Herald of Free Enterprise* disaster, including determination of stability of passenger ships in a damaged condition and a requirement for all cargo loading doors to be locked before a ship leaves the berth.

**The 1988 Protocol**

*Adoption*: 11 November 1988  
*Entry into force*: 3 February 2000

The Protocol introduced a new harmonized system of surveys and certification to harmonize with Load Lines and MARPOL 73/78.

**The 1988 (GMDSS) amendments**

*Adoption*: 11 November 1988  
*Entry into force*: 1 February 1992
The amendments revised Chapter IV and phased in the introduction of the GMDSS between 1993 and 1 February 1999. The basic concept of GMDSS is that search and rescue authorities ashore, as well as ships in the vicinity, will be rapidly alerted in the event of an emergency.

**The 1989 amendments**
- **Adoption:** 11 April 1989
- **Entry into force:** 1 February 1992

Amendments to chapters II-1 to reduce the number and size of openings in watertight bulkheads in passenger ships and ensure that they are closed in the event of an emergency. Range of amendments to Chapter II-2 relating to fixed gas fire-extinguishing systems, smoke detection systems, arrangements for fuel and other oils, the location and separation of spaces.

**The 1990 amendments**
- **Adoption:** May 1990
- **Entry into force:** 1 February 1992

Changes to the way in which the subdivision and stability of dry cargo ships are determined, applicable to ships of 100 metres or more in length built on or after 1 February 1992.

**The 1991 amendments**
- **Adoption:** 24 May 1991
- **Entry into force:** 1 January 1994

Chapter VI (Carriage of grain) revised and renamed Carriage of cargoes. International Grain Code made mandatory. In Chapter II-2, fire safety requirements for passenger ships improved in wake of **Scandinavian Star** disaster.

**The April 1992 amendments**
- **Adoption:** 10 April 1992
- **Entry into force:** 1 October 1994

New standards concerning the stability of existing ro-ro passenger ships after damage included in amendments to Chapter II-1.

**The December 1992 amendments**
- **Adoption:** 11 December 1992
- **Entry into force:** 1 October 1994

Amendments made to improve fire safety of new passenger ships in wake of **Scandinavian Star** disaster.

**The May 1994 amendments (Conference)**
- **Adoption:** 24 May 1994
- **Entry into force:** 1 January 1996 (Chapters X, XI)
  - 1 July 1998 (Chapter IX)

The Conference adopted three new SOLAS Chapters as well as a resolution on an accelerated amendment procedure.

**Chapter IX: Management for the Safe Operation of Ships:** International Safety Management Code made mandatory.

**Chapter X: Safety Measures for High Speed Craft:** International Code of Safety for High-Speed Craft made mandatory.
Chapter XI: Special Measures to Enhance Safety: The regulations relate to surveys and inspections; the enhanced programme of surveys for bulk carriers and tankers; IMO ship identification number scheme; and port State control.

The May 1994 amendments
Adoption: 25 May 1994
Entry into force: 1 January 1996

New regulations in Chapter V: to require all tankers of 20,000 dwt and above to be fitted with an emergency towing arrangement at both ends of the ship; to improve navigation bridge visibility; and to make mandatory the use of ship reporting systems approved by IMO.

The December 1994 amendments
Adoption: 9 December 1994
Entry into force: 1 July 1996

Code of Safe Practice for Cargo Stowage and Securing made mandatory under Chapter VI and Chapter VII.

The May 1995 amendments
Adoption: 16 May 1995
Entry into force: 1 January 1997

Chapter V amended to make ships' routeing systems compulsory

The November 1995 amendments (Conference)
Adopted: 29 November 1995
Entry into force: 1 July 1997

Set of amendments to SOLAS following the sinking of the ferry Estonia in September 1994. In Chapter II-1, amendments relating to stability of ro-ro passenger ships. In Chapter III, ro-ro passenger ships to be fitted with public address systems; improved requirements for life-saving appliances and arrangements; all passenger ships to have full details of passengers on board; and requirements for the provision of a helicopter pick-up or landing area. In Chapter V, all ro-ro passenger ships should have an established working language. Other amendments to Chapter IV Chapter VI. A resolution adopted, allowing for regional arrangements to be made on special safety requirements for ro-ro passenger ships.

The June 1996 amendments
Adoption: 4 June 1996
Entry into force: 1 July 1998

Completely revised Chapter III and International Life-Saving Appliance (LSA) Code adopted and made mandatory.

The December 1996 amendments
Adoption: 6 December 1996
Entry into force: 1 July 1998


The June 1997 amendments
Adoption: 4 June 1997
Entry into force: 1 July 1999
New Chapter V regulation on Vessel Traffic Services (VTS). In Chapter II-1, passenger ships, carrying 400 persons or more, required to comply with requirements for ro-ro passenger ships adopted in November 1995.

**The November 1997 amendments (Conference)**
**Adoption:** 27 November 1997
**Entry into force:** 1 July 1999

New Chapter XII on Additional Safety Measures for Bulk Carriers.

**The May 1998 amendments**
**Adoption:** 18 May 1998
**Entry into force:** 1 July 2002

Amendment to Chapter II-1 relating to visual examination of welded connections. In Chapter IV, amendments relating to registration of Global Maritime Distress and Safety System (GMDSS) identities (including ship’s call sign, Inmarsat identities); testing intervals for satellite emergency position indicating radio beacons (EPIRBs); and position updating. Amendments in Chapter VI and Chapter VII to require all cargoes, other than solid and liquid bulk cargoes to be loaded, stowed and secured in accordance with the Cargo Securing Manual.

**The May 1999 amendments**
**Adoption:** 27 May 1999
**Entry into force:** 1 January 2001

International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on Board Ships (INF Code) made mandatory in Chapter VII.

**The May 2000 amendment**
**Adoption:** 26 May 2000
**Entry into force:** 1 January 2002

In Chapter III, regulation for helicopter landing areas amended.

**The December 2000 amendments**
**Adoption:** 6 December 2000
**Entry into force:** 1 July 2002

Revised Chapter V including mandatory requirement for voyage data recorders (VDRs) to assist in accident investigations and carriage of automatic identification systems (AIS). In Chapter X, High-Speed Craft Code 2000 mandatory for new HSC. Revised Chapter II-2 and new International Code for Fire Safety Systems (FSS Code) made mandatory. In Chapter II-1, prohibition on the new installation of materials which contain asbestos on all ships. Amendments to the 1988 SOLAS Protocol to reflect the changes to Chapter V, including details of navigational systems and equipment in the records of equipment.

**The June 2001 Amendments**
**Adoption:** June 2001
**Entry into force:** 1 January 2003


**The May 2002 amendments**
**Adoption:** 24 May 2002
**Entry into force:** 1 January 2004

**The December 2002 amendments (Conference)**

**Adoption:** 13 December 2002  
**Entry into force:** 1 July 2004

Amendments adopted by a Diplomatic Conference on Maritime Security aimed at enhancing maritime security on board ships and at ship/port interface areas. In Chapter V, timetable for fitting of Automatic Information Systems (AIS) revised. Chapter XI re-numbered Chapter XI-1 (**Special measures to enhance maritime safety**). Regulation XI-1/3 amended to require ships' identification numbers to be permanently marked in a visible place either on the ship's hull or superstructure. New regulation XI-1/5 requires ships to be issued with a Continuous Synopsis Record (CSR) to provide an on-board record of the history of the ship.


**The December 2002 amendments (by the expanded MSC)**

**Adoption:** 12 December 2002  
**Entry into force:** 1 July 2004

**Chapter XII** - New regulation on **Hold, ballast and dry space water level detectors** to require the fitting of high level alarms and level monitoring systems on all bulk carriers and new regulation on **Availability of pumping systems**.

**SOLAS chapter II-1** - In Part B, new regulation **Access to spaces in cargo areas of oil tankers and bulk carriers** to ensure that vessels can be properly inspected throughout their lifespan. Associated **Technical provisions for means of access for inspections** are mandatory. In Part C, new paragraph added to regulation on **Machinery control**, to require threshold warning of impending or imminent slowdown or shutdown of the propulsion system to be given to officer in charge of the navigational watch.

**Chapter II-2** - The amendments concern references to the IMDG Code.

**Chapter III** - **Life-saving appliances and arrangements** - Amendments to require liferafts carried on ro-ro passenger ships to be fitted with a radar transponder.

**The June 2003 amendments**

**Adoption:** June 2003  
**Entry into force:** 1 July 2006

**Chapter V - Safety of Navigation** - Amendments to regulation on **Records of navigational activities** add a new paragraph on daily reporting. Ships on international voyages exceeding 48 hours to submit a daily report to their company, to include ship's position; ship's course and speed; and details of any conditions affecting the ship's voyage or safe operation.

**The May 2004 amendments**

**Adoption:** May 2004  
**Entry into force:** 1 January 2006

Access to and within spaces in the cargo area of oil tankers and bulk carriers – Amendments to allow the provision of non-permanent means of access onboard ships.
**Entry into force:** 1 July 2006  
**Persons in distress at sea** - Amendments to chapter V - to add a definition of search and rescue services; to set an obligation to provide assistance, regardless of nationality or status of persons in distress, and mandate co-ordination and co-operation between States to assist the ship's master in delivering persons rescued at sea to a place of safety; and to add a new regulation on master's discretion.  
**Accidents with lifeboats** - Amendments to chapter III intended to help prevent accidents with lifeboats during drills. Amendments concern the conditions in which lifeboat emergency training and drills should be conducted and introduce changes to the operational tests to be conducted during the weekly and monthly inspections.  
**Carriage of immersion suits** - Amendments to require one immersion suit per person on board all cargo ships.

**December 2004 amendments to SOLAS**  
**Adoption:** December 2004  
**Entry into force:** 1 July 2006  
**Bulk carrier safety** - A new text for SOLAS chapter XII (*Additional safety measures for bulk carriers*) incorporates revisions to some regulations and new requirements relating to double-side skin bulk carriers. The amendments include the addition of a new regulation 14 on restrictions from sailing with any hold empty and requirements for double-side skin construction as an optional alternative to single-side skin construction. The option of double-side skin construction will apply to new bulk carriers of 150m in length and over, carrying solid bulk cargoes having a density of 1,000 kg/m³ and above.  
**Free-fall lifeboats on bulk carriers** - an amendment to regulation 31 in SOLAS chapter III (*Life-saving appliances and arrangements*) makes mandatory the carriage of free-fall lifeboats on bulk carriers.  
**Simplified Voyage Data Recorders** - Amendments to regulation 20 of SOLAS chapter V (*Safety of Navigation*) give a phased-in carriage requirement for a shipborne simplified voyage data recorder (S-VDR). The regulation requires a VDR, which may be an S-VDR, to be fitted on existing cargo ships of 3,000 gross tonnage and upwards, phasing in the requirement for cargo ships of 20,000 gross tonnage and upwards first, to be followed by cargo ships of 3,000 gross tonnage and upwards.

**May 2005 amendments**  
**Adoption:** May 2005  
**Entry into force:** 1 January 2007/1 January 2009

A revised SOLAS chapter II-1 was adopted with entry into force set for 1 January 2009. The revision of SOLAS chapter II-1 is intended to harmonize the provisions on subdivision and damage stability for passenger and cargo ships. The revised provisions in parts A, B and B-1 will be applicable to new ships built after the expected entry into force date of 1 January 2009. The amendments, which have been intensively developed over the past decade, are based on the "probabilistic" method of determining damage stability, which is itself based on the detailed study of data collected by IMO relating to collisions. Because it is based on statistical evidence concerning what actually happens when ships collide, the probabilistic concept is believed to be far more realistic than the previously-used "deterministic" method.

The revision has taken into account the results of the HARDER (Harmonisation of Rules and Design Rational) research project: a project undertaken by a consortium of European industrial, research and academic institutions to study the probabilistic approach for assessing a ship’s damage stability and to develop new criteria and indexes for subdivision based on probability of survival, taking into account effects from waves, heeling moments, cargo shift, transient effects and equalization arrangements.
Other amendments to SOLAS, with an expected entry into force date of 1 January 2007, including:

- New SOLAS regulation II-1/3-7 to require ship construction drawings to be maintained on board and ashore.
- New SOLAS regulation II-1/3-8 concerning towing and mooring equipment. The regulation will require all ships to be provided with arrangements, equipment and fittings of sufficient safe working load to enable the safe conduct of all towing and mooring operations associated with the normal operation of the ship.
- New SOLAS regulation II-1/23-3 concerning water level detectors in the cargo hold(s) on new single hold cargo ships other than bulk carriers.
- Amendment to SOLAS regulation II-1/31 Machinery control to restrict the application of propulsion control automation systems to new ships only.

Also, with expected entry into force of 1 January 2009, new SOLAS regulations XI-1/3-1 and amendments to regulation XI-1/5 on the mandatory company and registered owner identification number.

May 2006 amendments LRIT

**Adoption:** May 2006  
**Entry into force:** 1 January 2008

The new regulation on LRIT is included in SOLAS chapter V on Safety of Navigation, through which LRIT will be introduced as a mandatory requirement for the following ships on international voyages: passenger ships, including high-speed craft; cargo ships, including high-speed craft, of 300 gross tonnage and upwards; and mobile offshore drilling units.

The SOLAS regulation on LRIT establishes a multilateral agreement for sharing LRIT information for security and search and rescue purposes, amongst SOLAS Contracting Governments, in order to meet the maritime security needs and other concerns of such Governments. It maintains the right of flag States to protect information about the ships entitled to fly their flag, where appropriate, while allowing coastal States access to information about ships navigating off their coasts. The SOLAS regulation on LRIT does not create or affirm any new rights of States over ships beyond those existing in international law, particularly, the United Nations Convention on the Law of the Sea (UNCLOS), nor does it alter or affect the rights, jurisdiction, duties and obligations of States in connection with UNCLOS.

The LRIT information ships will be required to transmit include the ship's identity, location and date and time of the position. There will be no interface between LRIT and AIS. One of the more important distinctions between LRIT and AIS, apart from the obvious one of range, is that, whereas AIS is a broadcast system, data derived through LRIT will be available only to the recipients who are entitled to receive such information and safeguards concerning the confidentiality of those data have been built into the regulatory provisions. SOLAS Contracting Governments will be entitled to receive information about ships navigating within a distance not exceeding 1000 nautical miles off their coast.

The regulation foresees a phased-in implementation schedule for ships constructed before its expected entry into force date of 1 January 2008 and an exemption for ships operating exclusively in sea area A1 from the requirement to transmit LRIT information, since such ships are already fitted with AIS. It also identifies which authorities may have access to LRIT information.

Also adopted were performance standards and functional requirements for LRIT and an MSC resolution on Arrangements for the timely establishment of the long range identification and tracking system.
May 2006 amendments

Adoption: May 2006
Entry into force: 1 July 2010

**Amendments to SOLAS Chapter II-2 - Fire protection**

These include amendments relating to Regulation 9 - Containment of fire, so as to include a requirement for water-mist nozzles which should be tested and approved in accordance with the guidelines approved by the Organization; and in Regulation 15 - Arrangements for oil fuel, lubricating oil and other flammable oils, new text relating to the application of the regulation to ships constructed on or after 1 February 1992 and on or after 1 July 1998.

**Amendments to SOLAS Chapter III - Life-saving appliances and arrangements**

In Regulation 7 - Personal life-saving appliances, the amendments add a new requirement for infant lifejackets. For passenger ships on voyages of less than 24 hours, a number of infant lifejackets equal to at least 2.5% of the number of passengers on board is to be provided; and for passenger ships on voyages of 24 hours or greater, infant lifejackets are to be provided for each infant on board. A further amendment relates to the provision of lifejackets for larger passengers and states that, if the adult lifejackets provided are not designed to fit persons with a chest girth of up to 1,750 mm, a sufficient number of suitable accessories are to be available on board to allow them to be secured to such persons.

**Amendments to SOLAS Chapter IV - Radiocommunications**

The amendments relate to the provision of radio equipment, in Regulation 7, to require ships to carry an EPIRB capable of transmitting a distress alert through the polar orbiting satellite service (COSPAS-SARSAT) operating in the 406 MHz band; and, in Regulations 9 and 10, to clarify that the means of initiating ship-to-shore distress alerts may be through the Inmarsat geostationary satellite service by a ship earth station.

**Amendments to SOLAS Chapter V - Safety of navigation**

The amendment adds a new paragraph to Regulation 22 - Navigation bridge visibility to allow ballast water exchange at sea, provided that the master has determined that it is safe to do so and takes into consideration any increased blind sectors or reduced horizontal fields of vision resulting from the operation to ensure that a proper lookout is maintained at all times. The operation should be conducted in accordance with the ship's ballast water management plan, taking into account the recommendations on ballast water exchange. The commencement and termination of the operation should be recorded in the ship's record of navigational activities.


The amendments replace the text of Chapter 5 Fixed gas fire-extinguishing systems with a revised text.

**Amendments to the International Life-Saving Appliance Code (LSA Code)**

The amendments include the requirement that all life saving appliances should withstand in stowage an air temperature range of 30°C to +65°C and personal life-saving appliances should remain operational throughout an air temperature range of -15°C to +40°C. The colour of life-saving appliances is now specified to be "of international or vivid reddish orange, or a comparably highly visible colour on all parts where this will assist detection at sea". The existing section 2.2 on General requirements for lifejackets is revised and replaced. Further amendments relate to specifications for immersion suits and anti-exposure suits.

**Amendments to Guidelines for the authorization of organizations acting on behalf of the Administration (Resolution A.739(18))**

The amendments to the guidelines, which are mandatory under SOLAS chapter XI-1, add a new paragraph 2-1 to require the use of only exclusive surveyors and auditors for surveys and certification, although radio surveys may be subcontracted to non-exclusive surveyors.

December 2006 amendments
Adoption: December 2006  
Entry into force: 1 July 2008/1 July 2010

Revised passenger ship safety standards

The package of amendments to SOLAS were the result of a comprehensive review of passenger ship safety initiated in 2000 with the aim of assessing whether the current regulations were adequate, in particular for the large passenger ships now being built.

The work in developing the new and amended regulations has based its guiding philosophy on the dual premise that the regulatory framework should place more emphasis on the prevention of a casualty from occurring in the first place and that future passenger ships should be designed for improved survivability so that, in the event of a casualty, persons can stay safely on board as the ship proceeds to port.

The amendments include new concepts such as the incorporation of criteria for the casualty threshold (the amount of damage a ship is able to withstand, according to the design basis, and still safely return to port) into SOLAS chapters II-1 and II-2. The amendments also provide regulatory flexibility so that ship designers can meet any safety challenges the future may bring. The amendments include:

- alternative designs and arrangements;
- safe areas and the essential systems to be maintained while a ship proceeds to port after a casualty, which will require redundancy of propulsion and other essential systems;
- on-board safety centres, from where safety systems can be controlled, operated and monitored;
- fixed fire detection and alarm systems, including requirements for fire detectors and manually operated call points to be capable of being remotely and individually identified;
- fire prevention, including amendments aimed at enhancing the fire safety of atriums, the means of escape in case of fire and ventilation systems; and
- time for orderly evacuation and abandonment, including requirements for the essential systems that must remain operational in case any one main vertical zone is unserviceable due to fire.

The amendments are expected to enter into force on 1 July 2010.

Fire regulations on balconies

Amendments to SOLAS chapter II-2 and to the International Code for Fire Safety Systems (FSS Code) to strengthen the fire protection arrangements in relation to cabin balconies on passenger vessels were developed in response to the fire aboard the cruise ship Star Princess, while on passage between Grand Cayman and Montego Bay, Jamaica, in March 2006. The fire began on an external balcony and spread over several decks.

The amendments to SOLAS chapter II-2 are aimed at ensuring that existing regulations 4.4 (Primary deck coverings), 5.3.1.2 (Ceilings and linings), 5.3.2 (Use of combustible materials) and 6 (Smoke generation potential and toxicity) are also applied to cabin balconies on new passenger ships.

For existing passenger ships, relevant provisions require that furniture on cabin balconies be of restricted fire risk unless fixed water spraying systems, fixed fire detection and fire alarm systems are fitted and that partitions separating balconies be constructed of non combustible materials, similar to the provisions for new passenger ships.

The amendments are expected to enter into force on 1 July 2008.

Prevention of accidents involving lifeboats

An amendment to SOLAS regulation III/19.3.3.4 concerns provisions for the launch of free-fall lifeboats during abandon-ship drills. The amendment will allow, during the abandon-ship drill, for
the lifeboat to either be free-fall launched with only the required operating crew on board, or lowered into the water by means of the secondary means of launching without the operating crew on board, and then manoeuvred in the water by the operating crew. The aim is to prevent accidents with lifeboats occurring during abandon-ship drills. The amendment is expected to enter into force on 1 July 2008.

**Protective coatings**

Amendments to SOLAS regulations II-1/3-2 make mandatory Performance standard for protective coatings of dedicated seawater ballast tanks on all new ships and of double-side skin spaces of bulk carriers.

The SOLAS amendments are expected to enter into force on 1 July 2008 and the performance standard will apply to ships for which the building contract is placed on or after 1 July 2008; or, in the absence of a building contract, the keels of which are laid on or after 1 January 2009, or the delivery of which is on or after 1 July 2012.

**Other amendments**

- amendments to the FSS Code relating to fire extinguishers, specifically portable foam applicators; fixed foam fire-extinguishing systems; fixed-pressure water-spraying and water-mist fire-extinguishing systems, fixed fire detection and fire alarm systems for cabin balconies. Entry into force on 1 July 2008.
- amendments to the International Life-Saving Appliance Code (LSA Code), including those related to life rafts, life boats and rescue boats, particularly in relation to stowage and release mechanisms. Entry into force on 1 July 2008.
- amendments to the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code), relating to fire protection and fire extinction, and the revised chapters 17 (Summary of minimum requirements), 18 (List of products to which the code does not apply) and 19 (Index of Products Carried in Bulk). Entry into force on 1 January 2009.
- amendments to the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), to update the references to SOLAS regulations and to add two more chemicals to the list of products in chapter 19 (Summary of minimum requirements). Entry into force on 1 July 2008.
- amendments to the Protocol of 1988, relating to the International Convention for the Safety of Life at Sea, 1974, to include in the Record of equipment for the relevant safety certificate an entry regarding the long-range identification and tracking system. Entry into force on 1 July 2008.
- amendments to the Dynamically Supported Craft (DSC) Code to update it in line with relevant amendments to SOLAS. Will become effective on 1 July 2008.
- amendments to the Gas Carrier (GC) Code, to update it in line with certain fire safety requirements in SOLAS. Will become effective on 1 July 2008.
- amendments to the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70)), including revisions to prototype tests for lifebuoys, lifejackets, immersion suits, anti-exposure suits and thermal protective aids, liferafts, lifeboats, rescue boats and fast rescue boats, launching and embarkation appliances, position-indicating lights for life-saving appliances and hydrostatic release units; and revisions to production
and installation tests for survival craft, launching and stowage arrangements. The amendments will become effective on 1 July 2008.

October 2007 amendments
Entry into force: 1 July 2009

Amendment to SOLAS chapter IV, to add a new regulation 4-1 on GMDSS satellite providers. The new regulation provides for the MSC to determine the criteria, procedures and arrangements for the evaluation, recognition, review and oversight of the provision of mobile satellite communication services in the Global Maritime Distress and Safety System (GMDSS).

Amendment to SOLAS chapter VI, to add a new regulation 5-1 on material safety data sheets (MSDS), to require ships carrying MARPOL Annex I cargoes (oil) and marine fuel oils to be provided with a material safety data sheet prior to loading such cargoes. The regulation refers to the Recommendation for material safety data sheets (MSDS) for MARPOL Annex I cargoes and marine fuel oils, adopted by the Organization through resolution MSC.150(77).


May 2008 amendments
Entry into force: 1 January 2010

Amendments to SOLAS chapter II-2, regarding drainage of special category and ro-ro spaces to prevent accumulation of water on the vehicle deck of ro-ro ships;

Amendments to SOLAS Chapter XI 1 to add a new Regulation 6 (Additional requirements for the investigation of marine casualties and incidents) to make mandatory parts I and II of the new Casualty Investigation Code;

A new SOLAS regulation II-1/3-9 (Means of embarkation on and disembarkation from ships), to require ships built after its adoption and entry into force to be provided with means of embarkation and disembarkation, such as gangways and accommodation ladders;

A new SOLAS regulation and amendments to SOLAS regulation II-1/3-4 (Emergency towing arrangements on tankers), to extend the regulation to ships other than tankers. The MSC also approved Guidelines for owners/operators on preparing emergency towing procedures; and

Amendments to regulations III/6, III/26 and IV/7 to replace requirements for "radar transponders" with a requirement for a "search and rescue locating device".

Amendments to 1988 SOLAS Protocol

Amendments to the 1988 SOLAS Protocol, to replace the reference to "radar transponders" with a reference to "search and rescue locating devices", in the form of safety certificate for passenger ships and forms of safety certificate for cargo ships.

December 2008 amendments
Entry into force: 1 July 2010


The 2008 IS Code provides, in a single document, both mandatory requirements and recommended provisions relating to intact stability, taking into account technical developments, in particular regarding the dynamic stability phenomena in waves, based on state-of-the-art
concepts. The Code's mandatory status, under both the SOLAS Convention and the 1988 Load Lines Protocol, will significantly influence the design and the overall safety of ships.

**December 2008 amendments**  
**Entry into force: 1 January 2011**

Amendments to SOLAS chapter VI to make mandatory the International Maritime Solid Bulk Cargoes Code (IMSBC Code). The IMSBC Code will replace the Code of Safe Practice for Solid Bulk Cargoes (BC Code), which was first adopted as a recommendatory code in 1965 and has been updated at regular intervals since then.

The aim of the mandatory IMSBC Code is to facilitate the safe stowage and shipment of solid bulk cargoes by providing information on the dangers associated with the shipment of certain types of cargo and instructions on the appropriate procedures to be adopted.

**June 2009 amendment**  
**Entry into force: 1 January 2011**

**ECDIS and BNWAS to be made mandatory under SOLAS**  
Amendments to SOLAS regulation V/19, to make mandatory the carriage of Electronic Chart Display and Information Systems (ECDIS) and Bridge Navigational Watch Alarm Systems (BNWAS), under SOLAS chapter V, *Safety of Navigation*. The requirements will be mandatory for new ships and phased-in for existing ships.

Other SOLAS amendments

- an amendment to SOLAS regulation II-1/3-5.2, to prohibit all new installations of asbestos on board ships, without exceptions; and
- amendments to the title of Chapter VI to read, *Carriage of Cargoes "and Oil Fuels"* and to Regulation VI/5-1 on *Material safety data sheets* (MSDS) to require MSDS to be provided for ships carrying oil or oil fuel, prior to the loading of such oil as cargo in bulk or bunkering of oil fuel. The MSC also approved *Recommendations for material safety data sheets* (MSDS) for MARPOL Annex I type cargoes and oil fuels.
International Convention on Load Lines, 1966

Adoption: 5 April 1966  
Entry into force: 21 July 1968

The first International Convention on Load Lines, adopted in 1930, was based on the principle of reserve buoyancy, although it was recognized then that the freeboard should also ensure adequate stability and avoid excessive stress on the ship's hull as a result of overloading. In the 1966 Load Lines convention, adopted by IMO, provisions are made determining the freeboard of tankers by subdivision and damage stability calculations.

The Convention includes Annex I, divided into four Chapters:
- Chapter I - General;
- Chapter II - Conditions of assignment of freeboard;
- Chapter III - Freeboards;
- Chapter IV - Special requirements for ships assigned timber freeboards.

Annex II covers Zones, areas and seasonal periods and Annex III contains certificates, including the International Load Line Certificate.

Amendments
The 1966 Convention provided for amendments to be made by positive acceptance. Amendments could be considered by the Maritime Safety Committee, the IMO Assembly or by a Conference of Governments.

The 1988 Protocol
Adoption: 11 November 1988  
Entry into force: 3 February 2000

The Protocol was primarily adopted in order to harmonize the Convention's survey and certification requirement with those contained in SOLAS and MARPOL 73/78. All three instruments require the issuing of certificates to show that requirements have been met and this has to be done by means of a survey which can involve the ship being out of service for several days.

The harmonized system alleviates the problems caused by survey dates and intervals between surveys which do not coincide, so that a ship should no longer have to go into port or repair yard for a survey required by one Convention shortly after doing the same thing in connection with another instrument.

The 1988 Load Lines Protocol provides for amendments to be considered either by the Maritime Safety Committee or by a Conference of Parties and to be adopted by a two thirds majority of Parties to the Convention present and voting. Amendments enter into force six months after the deemed date of acceptance - which must be at least a year after the date of communication of adoption of amendments unless they are rejected by one-third of Parties. Usually, the date from adoption to deemed acceptance is two years.

The 2003 amendments
Adopted: June 2003  
Entry into force: 1 January 2005

The amendments to Annex B to the 1988 Load Lines Protocol include a number of important revisions, in particular to regulations concerning: strength and intact stability of ships; definitions; superstructure and bulkheads; doors; position of hatchways, doorways and ventilators; hatchway coamings; hatch covers; machinery space openings; miscellaneous openings in freeboard and superstructure decks; cargo ports and other similar openings; spurling pipes and cable lockers; side scuttles; windows and skylights; calculation of freeing ports; protection of the
crew and means of safe passage for crew; calculation of freeboard; sheer; minimum bow height and reserve buoyancy; and others. The amendments, which amount to a comprehensive revision of the technical regulations of the original Load Lines Convention, do not affect the 1966 LL Convention and only apply to those ships flying the flags of States Party to the 1988 LL Protocol.
Special Trade Passenger Ships Agreement, 1971

**Adoption:** 6 October 1971  
**Entry into force:** 2 January 1974

The carriage of large numbers of unberthed passengers in special trades such as the pilgrim trade - in a restricted sea area around the Indian Ocean - is of particular interest to countries in that area. It was regulated by the Simla Rules of 1931, which became outdated following the adoption of the 1948 and 1960 SOLAS Conventions. As a result, IMO convened an International Conference in 1971 to consider safety requirements for special trade passenger ships in relation to the 1960 SOLAS Convention. Included in an Annex to the Agreement are Special Trade Passenger Ships Rules, 1971, which provide modifications to the regulations of Chapters II and III of the 1960 SOLAS Convention.

Protocol on Space Requirements for Special Trade Passenger Ships, 1973

**Adoption:** 13 July 1973  
**Entry into force:** 2 June 1977

Following the International Conference on Special Trade Passenger Ships, 1971, IMO, in co-operation with other Organizations, particularly the World Health Organisation (WHO), developed technical rules covering the safety aspects of carrying passengers on board such ships. The Protocol on Space Requirements for Special Trade Passenger Ships was adopted in 1973. Annexed to this Protocol are technical rules covering the safety aspect of the carriage of passengers in special trade passenger ships. The space requirements for special trade passenger ships are complementary to the 1971 Special Trade Passenger Ships Agreement.
Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREGs)

Adoption: 20 October 1972
Entry into force: 15 July 1977

The 1972 Convention was designed to update and replace the Collision Regulations of 1960 which were adopted at the same time as the 1960 SOLAS Convention. One of the most important innovations in the 1972 COLREGs was the recognition given to traffic separation schemes - Rule 10 gives guidance in determining safe speed, the risk of collision and the conduct of vessels operating in or near traffic separation schemes.

Amendment procedure
Under the "tacit acceptance" procedure incorporated in the Convention, an amendment must first be adopted by two-thirds of those present and voting in the Maritime Safety Committee. It is then communicated to Contracting Parties and considered by the IMO Assembly. If adopted by two-thirds of the States present and voting in the Assembly, it automatically enters into force on a specified date unless more than one third of the Contracting Parties notify the Organization of their objection.

In addition, a Conference for the purpose of revising the Convention or its regulations or both may be convened by IMO at the request of not less than one-third of Contracting Parties.

Technical provisions
The COLREGs include 38 rules divided into five sections: Part A - General; Part B - Steering and Sailing; Part C - Lights and Shapes; Part D - Sound and Light signals; and Part E - Exemptions. There are also four Annexes:

- Annex I - Positioning and technical details of lights and shapes
- Annex II - Additional signals for fishing vessels fishing in close proximity
- Annex III - Technical details of sounds signal appliances
- Annex IV - Distress signals, which lists the signals indicating distress and need of assistance.

The 1981 amendments
Adoption: 19 November 1981
Entry into force: 1 June 1983

Rule 10 was amended to enable vessels carrying out various safety operations, such as dredging or surveying, to carry out these functions in traffic separation schemes.

The 1987 amendments
Adoption: 19 November 1987
Entry into force: 19 November 1989

Amendments to Rule 1(e) - vessels of special construction: classifies the application of the Convention to such ships; Rule 3(h), which defines a vessel constrained by her draught; Rule 10(c) - crossing traffic lanes.

The 1989 amendments
Adoption: 19 October 1989
Entry into force: 19 April 1991

The amendment to Rule 10 is designed to stop unnecessary use of the inshore traffic zone.

The 1993 amendments
Adoption: 4 November 1993
Entry into force: 4 November 1995
The amendments are mostly concerned with the positioning of lights.

**The 2001 amendments**

**Adoption:** 29 November 2001  
**Entry into force:** 29 November 2003

The amendments include new rules relating to Wing-in Ground (WIG) craft, including *General Definitions* (Rule 3); *Action to avoid collision* (Rule 8 (a)); *Responsibilities between vessels* (Rule 18); *Power-driven vessels underway* (Rule 23); *Seaplanes* (Rule 31); *Equipment for sound signals and sound signals in restricted visibility* (Rules 33 and 35); *Positioning and technical details of lights and shapes* (Annex I); and *Technical details of sound signal appliances* (Annex III).
International Convention for Safe Containers, 1972 (CSC)

Adoption: 2 December 1972
Entry into force: 6 September 1977

The Convention has two goals: to maintain a high level of safety of human life in the transport and handling of containers by providing generally acceptable test procedures and related strength requirements and to facilitate the international transport of containers by providing uniform international safety regulations, equally applicable to all modes of surface transport.

The requirements of the Convention apply to the great majority of freight containers used internationally, except those designed specially for carriage by air. The scope of the Convention is limited to containers of a prescribed minimum size having corner fittings - devices which permit handling, securing or stacking.

The Convention includes two Annexes:

- **Annex I** includes **Regulations for the testing, inspection, approval and maintenance of containers**
- **Annex II** covers **structural safety requirements and tests**, including details of test procedures.

Annex I sets out procedures whereby containers used in international transport must be safety-approved by an Administration of a Contracting State or by an organization acting on its behalf.

**Amendment procedure**

Amendments to the Annexes can be considered by IMO at the request of a Contracting Party and adopted by a two-thirds majority of those present and voting in the IMO Maritime Safety Committee. Amendments enter into force on a date determined by the MSC at the time of adoption unless by a specified date one-fifth or five of the Contracting Parties (whichever is less) object.

Amendments to any part of the Convention can be adopted by the IMO Assembly, following consideration and adoption by the MSC. In this case, amendments enter into force twelve months after being accepted by two-thirds of Contracting parties.

**The 1981 amendments**

Adoption: 2 April 1981
Entry into force: 1 December 1981

The amendments provided transitional arrangements for plating of containers (and for the marking of the date of the container’s next examination).

**The 1983 amendments**

Adoption: 13 June 1983
Entry into force: 1 January 1984

The amendments extended the interval between re-examination to 30 months and allowed for a choice of container re-examination procedures between the original periodic examination scheme or a new continuous examination programme.

**The 1991 amendments**

Adoption: 17 May 1991
Entry into force: 1 January 1993

The amendments included the addition of a new Chapter V to Annex I concerning regulations for the approval of modified containers.

**The 1993 amendments**

Adoption: 4 November 1993 (by IMO Assembly)
Entry into force: 12 months after being accepted by two-thirds of Contracting Parties
**Status:** 8 acceptances have been received

The amendments concern the information contained on the CSC Approval plate and also amend some of the test loads and testing procedures.

**Adoption:** 3 September 1976  
**Entry into force:** 16 July 1979

IMO recognised the potential for satellite communications to assist in distress situations at sea soon after the launch of the world’s first telecommunications satellite, Telstar, in 1962. In February 1966, IMO’s Maritime Safety Committee (MSC) decided to study the operational requirements for a satellite communications system devoted to maritime purposes and in 1973 decided to convene a conference with the object of establishing a new maritime communications system based on satellite technology. The Conference first met in 1975 and held three sessions, at the third of which, in 1976, the Convention on the International Maritime Satellite Organization was adopted, together with an Operating Agreement.

The Convention defines the purposes of Inmarsat as being to improve maritime communications, thereby assisting in improving distress and safety of life at sea communications, the efficiency and management of ships, maritime public correspondence services, and radiodetermination capabilities.

In 1998, Inmarsat’s Assembly of member Governments agreed to privatize Inmarsat from April 1999. The new structure comprises two entities:

- **Inmarsat Ltd** - a public limited company which will form the commercial arm of Inmarsat.
- **International Mobile Satellite Organization (IMSO)** - an intergovernmental body established to ensure that Inmarsat continues to meet its public service obligations, including obligations relating to the GMDSS. IMSO replaces Inmarsat as observer at IMO meetings.

Amendments to the Inmarsat Convention

The Inmarsat Convention states Amendments should be considered and adopted by the Inmarsat Assembly and that amendments enter into force 120 days after two-thirds of States representing at least two-thirds of investment shares become Party to the amendments.

**The 1985 amendments**

**Adoption:** 16 October 1985  
**Entry into force:** 13 October 1989

The amendments enabled Inmarsat to provide services to aircraft as well as ships.

**The 1989 amendments**

**Adoption:** 19 January 1989 by Inmarsat Assembly  
**Entry into force:** 26 June 1997

The amendments enabled Inmarsat to provide services to land-based vehicles as well as ships and aircraft.

**The 1994 amendments**

**Adoption:** 9 December 1994 by Inmarsat Assembly  
**Entry into force:** 120 days after being accepted by two-thirds of Contracting Parties representing two-thirds of the total investment share  
**Status:** 40 acceptances

One of the amendments changed the name of the Organization to the International Mobile Satellite Organization, abbreviated to Inmarsat. The change reflected changes since the Organization was formed and the extension of its services from the maritime sector to other modes of transport. There were also changes to Article 13 on the composition of the Inmarsat Council.
The April 1998 amendments
Adoption: 24 April 1998 by Inmarsat Assembly
Entry into force: 31 July 2001
Amendments to the Inmarsat Convention and Operating Agreement to permit the restructuring of Inmarsat.
The Torremolinos International Convention for the Safety of Fishing Vessels, 1977

**Adoption:** 2 April 1977  
**Entry into force:** One year after 15 States with 50 per cent of the world's fishing fleet of vessels of 24 metres in length have ratified the Convention.  
**Status:** Superseded by the 1993 Protocol (see below).

The 1977 Convention, adopted at a conference held in Torremolinos, Spain, was the first-ever international Convention on the safety of fishing vessels. It contained safety requirements for the construction and equipment of new, decked, seagoing fishing vessels of 24 metres in length and over, including those vessels also processing their catch. Existing vessels were covered only in respect of radio requirements.

**Revision of Convention**  
In the 1980s, it became clear that the 1977 Torremolinos Convention was unlikely to enter into force, largely for technical reasons, and IMO decided to prepare a replacement.

The 1993 Torremolinos Protocol  
**Adoption:** 2 April 1993  
**Entry into force:** One year after 15 States with at least an aggregate fleet of 14,000 vessels equivalent to approximately 50% of today's world fishing fleet of vessels of 24 metres in length and over, have ratified the Protocol.  
**Status:** 10 acceptances have been received

The Protocol updates, amends and absorbs the parent Convention, taking into account technological evolution in the intervening years and the need to take a pragmatic approach to encourage ratification of the instrument.  
The Protocol applies to fishing vessels of 24 metres in length and over including those vessels also processing their catch.  
The Protocol takes into account the trend to exploit deep water fishing grounds on a large scale and to conduct fishing operations in distant waters, resulting in the building of a new generation of more sophisticated fishing vessels. To be successful in their operations, these vessels have to be fitted with advanced fishfinding and navigation equipment. Fishing vessels must also be equipped to carry out environment-friendly trawling, introduced to preserve fishing resources as well as the seabed.  
The general trend in modern designed fishing vessels, if they are to be economically profitable, must include improvements in machinery and fishing gear, improvements in safety features as a whole and better working conditions for fishermen. The safety provisions addressed by the Protocol, incorporating and amending the 1977 Convention, are included in an Annex consisting of ten Chapters. The provisions include automatically controlled machinery spaces, improved life-saving appliances, immersion suits and thermal protective aids, satellite communication systems and other components of the global maritime distress and safety system.

- **Chapter 1 - General Provisions**  
The regulations in the Annex apply to new vessels, built on or after date of entry into force of the Protocol.

- **Chapter II - Construction, watertight integrity and equipment**  
Includes technical specifications.

- **Chapter III - Stability and associated seaworthiness**  
Technical specifications including minimum stability criteria and regulations relating to specific operating conditions, severe wind and rolling, ice accretion and so on.

- **Chapter IV - Machinery and electrical installations and periodically unattended machinery spaces**
Part A - General. States the Chapter applies to vessels 45 metres in length and over
Part B - Machinery Installations
Part C - Electrical Installations
Part D - Periodically unattended machinery spaces

- Chapter V - Fire Protection, Fire Detection, Fire Extinction and Fire Fighting
  Part A - General
  Part B - Fire safety measures in vessels of 60 metres in length and over
  Part C - Fire safety measures in vessels of 45 metres in length and over but less than 60 metres in length
- Chapter VI - Protection of the crew
  Includes technical specification relating to deck openings, bulwarks, rails and guards, stairways and ladders.

- Chapter VII - Life-saving appliances and arrangements
  Part A - General. States the Chapter applies to new vessels of 45 metres in length and over unless otherwise stated. Regulations 13 and 14 relating to radio life-saving appliances and radar transponders also apply to existing vessels of 45 metres in length and over from the date of entry into force of the Protocol.
  Part B - Vessel requirements. Including number and type of survival and rescue boats, provision of lifejackets and so on.
  Part C - Life-saving appliances requirements. Includes specifications for these appliances.

- Chapter VIII - Emergency procedures, musters and drills
  Applies to new and existing vessels of 24 metres in length and over. Covers emergency alarm system, muster list and emergency instructions, and abandon ship training and drills.

- Chapter IX - Radio communications
  The Chapter includes requirements for vessels to be equipped for the Global Maritime Distress and Safety System (GMDSS) and the Chapter mirrors regulations contained in the International Convention for the Safety of Life at Sea (SOLAS), 1974, Chapter IV.
  Part A - Application and definitions. Applies to new and existing vessels of 45 metres in length and over.
  Part B - Ship requirements. Includes requirements for radio installations on all vessels and on those sailing in specified sea areas.

- Chapter X - Shipborne navigational equipment and arrangements
  The Chapter applies to new and existing vessels and includes requirements for carriage of navigational equipment for vessels 24 metres in length and over, vessels of less than 24 metres in length and vessels of 45 metres in length and over.

Amendment Procedure
The Protocol (Article 11) allows for amendments to be adopted either by the Maritime Safety Committee of IMO or by a Conference of Parties to the Protocol. Amendments enter into force on a specified date unless a required number of objections are received.

Regional standards
The Protocol applies to vessels over 24 metres in length, but certain Chapters are applicable to vessels of 45 metres in length and over.
The Protocol, however, allows for Administrations to determine which particular regulations of these Chapters should apply to vessels of between 24 metres and 45 metres in length (Article 3 (4)).
To ensure uniform standards, the Protocol encourages Administrations to establish uniform regional standards to apply to fishing vessels operating in the same region, taking into account mode of operation, sheltered nature and climatic conditions in that region (Article 3 (9)).
Regional agreements in operation include:

- Guidelines for the safety of fishing vessels of 24 m and over but less than 45 m in length operating in the East and South-East Asia region, adopted at a Conference in Tokyo in February 1997.

- European regional agreement applicable from 1 January 1999. The European legislation introducing a harmonised safety regime for fishing vessels of 24 metres in length and over was adopted in December 1997 and is entirely based upon the 1993 Torremolinos Protocol.

Revised fishing vessel safety code and voluntary guidelines
IMO has developed, in collaboration with the Food and Agriculture organization (FAO) and the International Labour Organization (ILO), a number of non-mandatory instruments. These include the FAO/ILO/IMO Document for Guidance on Fishermen's Training and Certification and the revised Code of Safety for Fishermen and Fishing Vessels, 2005, and the Voluntary Guidelines for the Design, Construction and Equipment of Small Fishing Vessels, 2005.

The revised Fishing Vessel Safety Code and Voluntary Guidelines - originally developed and approved in the 1970s - have been developed for use primarily by competent authorities, training institutions, fishing vessel owners, fishermen's representative organizations and non-governmental organizations having a recognized role in fishermen's safety and health and training.

Part A of the Code provides guidance on the development of national codes and fishermen's education and training manuals and guidance on the safety and health of fishermen. Competent authorities are encouraged to make use of the contents of the Code and the Voluntary Guidelines in the production of safety and health and training materials in an appropriate format to suit the particular needs of the fisheries of the country or region and in local languages.
International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978

Adoption: 7 July 1978
Entry into force: 28 April 1984

The 1995 amendments, which entered into force on 1 February 1997, completely revised and replaced the Convention.

The 1978 STCW Convention was the first to establish basic requirements on training, certification and watchkeeping for seafarers on an international level.

The 1991 amendments
Adoption: 22 May 1991
Entry into force: 1 December 1992

The amendments were mostly concerned with additional requirements made necessary by the implementation of the Global Maritime Distress and Safety System (GMDSS).

The 1994 amendments
Adoption: 25 May 1994
Entry into force: 1 January 1996

The amendments replaced Chapter V on special training for crews on tankers.

The 1995 amendments
Adoption: 7 July 1995
Entry into force: 1 February 1997 (with phase-in period to 1 February 2002)

The 1995 amendments completely revised the Convention.

One of the major features of the revision was the division of the technical annex into regulations, divided into Chapters as before, and a new STCW Code, to which many technical regulations have been transferred. Part A of the Code is mandatory while Part B is recommended. Dividing the regulations up in this way makes administration easier and it also makes the task of revising and updating them more simple: for procedural and legal reasons there is no need to call a full conference to make changes to Codes.

Chapter I - General Provisions

Parties to the Convention are required to provide detailed information to IMO concerning administrative measures taken to ensure compliance with the Convention. This represented the first time that IMO had been called upon to act in relation to compliance and implementation - generally, implementation is down to the flag States, while port State control also acts to ensure compliance.

Under regulation I/7, Parties are required to provide detailed information to IMO concerning administrative measures taken to ensure compliance with the Convention, education and training courses, certification procedures and other factors relevant to implementation.

The information is reviewed by panels of competent persons, nominated by Parties to the STCW Convention, who report on their findings to the IMO Secretary-General, who, in turn, reports to the Maritime Safety Committee (MSC) on the Parties which fully comply. The MSC then produce a list of Parties in compliance. This list can be seen on the IMO website at http://www.imo.org/home.asp?topic_id=291
Regulation I/4 allows for port State to allow intervention in the case of deficiencies deemed to pose a danger to persons, property or the environment. This can take place if certificates are not in order or if the ship is involved in a collision or grounding, if there is an illegal discharge of substances (causing pollution) or if the ship is manoeuvred in an erratic or unsafe manner, etc.

Parties are required to establish procedures for investigating acts by persons to whom they have issued certificates that endanger safety or the environment. Penalties and other disciplinary measures must be prescribed and enforced where the Convention is not complied with.

Technical innovations, such as the use of simulators for training and assessment purposes are recognized. Simulators are mandatory for training in the use of radar and automatic radar plotting aids (regulation I/12 and section A-I/12 of the STCW Code).

Parties are required to ensure that training, certification and other procedures are continuously monitored by means of a quality assurance system (regulation I/8).

Every master, officer and radio operator are required at intervals not exceeding five years to meet the fitness standards and the levels of professional competence contained in Section A-I/11 of the STCW Code. In order to assess the need for revalidation of certificates after 1 February 2002, Parties must compare the standards of competence previously required with those specified in the appropriate certificate in part A of the STCW Code. If necessary, the holders of certificates may be required to undergo training or refresher courses (regulation I/11).

Chapter II: Master and deck department
The Chapter was revised and updated.

Chapter III: Engine department
The Chapter was revised and updated.

Chapter IV: Radiocommunication and radio personnel
The Chapter was revised and updated.

Chapter V: Special training requirements for personnel on certain types of ships
Special requirements were introduced concerning the training and qualifications of personnel on board ro-ro passenger ships. Previously the only special requirements in the Convention concerned crews on tankers. This change was made in response to proposals made by the Panel of Experts set up to look into ro-ro safety following the capsize and sinking of the ferry Estonia in September 1994. Crews on ro-ro ferries have to receive training in technical aspects and also in crowd and crisis management and human behaviour.

Chapter VI: Emergency, occupational safety, medical care and survival functions
The Chapter incorporates the previous Chapter VI: Proficiency in survival craft and includes mandatory minimum requirements for familiarization, basic safety training and instruction for all seafarers; mandatory minimum requirements for the issue of certificates of proficiency in survival craft, rescue boats and fast rescue boats; mandatory minimum requirements for training in advanced firefighting; and mandatory minimum requirements relating to medical first aid and medical care.

Chapter VII: Alternative certification
Regulations regarding alternative certification (also known as the functional approach) are included in a new Chapter VII. This involves enabling crews to gain training and certification in various departments of seafaring rather than being confined to one branch (such as deck or engine room) for their entire career. Although it is a relatively new concept, the Conference was anxious not to prevent its development. At the same time, the new Chapter is intended to ensure that safety and the environment are not threatened in any way. The use of equivalent educational and training arrangements is permitted under article IX.
Chapter VIII: Watchkeeping
Measures were introduced for watchkeeping personnel to prevent fatigue. Administrations are required to establish and enforce rest periods for watchkeeping personnel and to ensure that watch systems are so arranged that the efficiency of watchkeeping personnel is not impaired by fatigue.

The STCW Code
The regulations contained in the Convention are supported by sections in the STCW Code. Generally speaking, the Convention contains basic requirements which are then enlarged upon and explained in the Code.

Part A of the Code is mandatory. The minimum standards of competence required for seagoing personnel are given in detail in a series of tables. Chapter II of the Code, for example, deals with standards regarding the master and deck department. An example is given below:

<table>
<thead>
<tr>
<th>Specification of minimum standards of competence for masters and chief mates of ships of 500 tons gross tonnage or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competence</td>
</tr>
<tr>
<td>Establish watchkeeping arrangements and procedures</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Part B of the Code contains recommended guidance which is intended to help Parties implement the Convention. The measures suggested are not mandatory and the examples given are only intended to illustrate how certain Convention requirements may be complied with. However, the recommendations in general represent an approach that has been harmonized by discussions within IMO and consultation with other international organizations.

The 1997 Amendments
Adoption: June 1997
Entry into force: 1 January 1999

The amendments concern training for personnel on passenger ships. New Regulation V/3 in Chapter V on Mandatory minimum requirements for the training and qualifications of masters, officers, ratings and other personnel on passenger ships other than ro-ro passenger ships. Related additions are also made to the STCW Code, covering Crowd management training; Familiarization training; Safety training for personnel providing direct service to passengers in passenger spaces; Passenger safety; and Crisis management and human behaviour training.

The 1998 Amendments
Adoption: 9 December 1998
Entry into force: 1 January 2003

Amendments to the STCW Code are aimed at improving minimum standards of competence of crews, in particular relating to cargo securing, loading and unloading on bulk carriers, since these procedures have the potential to put undue stresses on the ship’s structure. The amendments concern sections A-II/1 and A-II/2 under "Cargo handling and stowage at the operational and management levels".

2010
A major revision of STCW Convention and Code to be adopted in June 2010.
International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F), 1995

**Adoption:** 7 July 1995  
**Entry into force:** 12 months after being accepted by 15 States.  
**Status:** 4 acceptances received

The Convention will apply to crews of seagoing fishing vessels generally of 24 metres in length and above.

The Convention is the first attempt to make standards of safety for crews of fishing vessels mandatory.

The STCW-F Convention consists of 15 Articles and an annex containing technical regulations. Chapter I contains General Provisions and Chapter II deals with Certification of Skippers, Officers, Engineer Officers and Radio Operators.

Previously efforts to improve the training, certification and watchkeeping standards of fishing vessels' personnel have been adopted as recommendations in Assembly resolutions and the Document for Guidance on Fishermens' Training and Certification produced jointly by IMO and the Food and Agriculture Organization (FAO) and the International Labour Organisation (ILO).

**Revised fishing vessel safety code and voluntary guidelines**


The revised version of the Fishing Vessel Safety Code and Voluntary Guidelines - originally developed and approved in the 1970s - has been developed for use primarily by competent authorities, training institutions, fishing vessel owners, fishermen's representative organizations and non-governmental organizations having a recognized role in fishermen's safety and health and training.

Part A of the Code provides guidance on the development of national codes and fishermen's education and training manuals and guidance on the safety and health of fishermen. Competent authorities will be encouraged to make use of the contents of the Code and the Voluntary Guidelines in the production of safety and health and training materials in an appropriate format to suit the particular needs of the fisheries of the country or region and in local languages.
International Convention on Maritime Search and Rescue, 1979

**Adoption:** 27 April 1979  
**Entry into force:** 22 June 1985

The 1979 Convention, adopted at a Conference in Hamburg, was aimed at developing an international SAR plan, so that, no matter where an accident occurs, the rescue of persons in distress at sea will be co-ordinated by a SAR organization and, when necessary, by co-operation between neighbouring SAR organizations.

Although the obligation of ships to go to the assistance of vessels in distress was enshrined both in tradition and in international treaties (such as the International Convention for the Safety of Life at Sea, 1974 - SOLAS), there was, until the adoption of the SAR Convention, no international system covering search and rescue operations. In some areas there was a well-established organization able to provide assistance promptly and efficiently, in others there was nothing at all.

The technical requirements of the SAR Convention are contained in an Annex, which was divided into five Chapters. Parties to the Convention are required to ensure that arrangements are made for the provision of adequate SAR services in their coastal waters.

Parties are encouraged to enter into SAR agreements with neighbouring States involving the establishment of SAR regions, the pooling of facilities, establishment of common procedures, training and liaison visits. The Convention states that Parties should take measures to expedite entry into its territorial waters of rescue units from other Parties.

The Convention establishes preparatory measures which should be taken, including the establishment of rescue co-ordination centres and subcentres. It outlines operating procedures to be followed in the event of emergencies or alerts and during SAR operations. This includes the designation of an on-scene commander and his duties.

Parties to the Convention are required to establish ship reporting systems, under which ships report their position to a coast radio station. This enables the interval between the loss of contact with a vessel and the initiation of search operations to be reduced. It also helps to permit the rapid determination of vessels which may be called upon to provide assistance including medical help when required.

**Amendment Procedure**

The SAR Convention allowed for amendments to the technical Annex to be adopted by a Conference of STCW Parties or by IMO’s Maritime Safety Committee, expanded to include all Contracting Parties, some of whom may not be members of the Organization. Amendments to the SAR Convention enter into force on a specified date unless objections are received from a required number of Parties.

**IMO search and rescue areas**

Following the adoption of the 1979 SAR Convention, IMO’s Maritime Safety Committee divided the world’s oceans into 13 search and rescue areas, in each of which the countries concerned have delimited search and rescue regions for which they are responsible. Provisional search and rescue plans for all of these areas were completed when plans for the Indian Ocean were finalized at a conference held in Fremantle, Western Australia in September 1998.

**The 1998 amendments**

**Adopted:** 18 May 1998  
**Entry into force:** 1 January 2000
The revised technical Annex of the SAR Convention clarifies the responsibilities of Governments and puts greater emphasis on the regional approach and co-ordination between maritime and aeronautical SAR operations. The revised Annex includes five Chapters:

**Chapter 1 - Terms and Definitions**
This Chapter updates the original Chapter 1 of the same name.

**Chapter 2 - Organization and Co-ordination**
Replaces the 1979 Chapter 2 on Organization. The Chapter has been re-drafted to make the responsibilities of Governments clearer. It requires Parties, either individually or in co-operation with other States, to establish basic elements of a search and rescue service, to include:

- Legal framework
- Assignment of a responsible authority
- Organization of available resources
- Communication facilities
- Co-ordination and operational functions
- Processes to improve the service including planning, domestic and international co-operative relationships and training.

Parties should establish search and rescue regions within each sea area - with the agreement of the Parties concerned. Parties then accept responsibility for providing search and rescue services for a specified area.

The Chapter also describes how SAR services should be arranged and national capabilities be developed. Parties are required to establish rescue co-ordination centres and to operate them on a 24-hour basis with trained staff who have a working knowledge of English.

Parties are also required to "ensure the closest practicable co-ordination between maritime and aeronautical services".

**Chapter 3 - Co-operation between States**
Replaces the original Chapter 3 on Co-operation. Requires Parties to co-ordinate search and rescue organizations, and, where necessary, search and rescue operations with those of neighbouring States. The Chapter states that unless otherwise agreed between the States concerned, a Party should authorize, subject to applicable national laws, rules and regulations, immediate entry into or over its territorial sea or territory for rescue units of other Parties solely for the purpose of search and rescue.

**Chapter 4 - Operating Procedures**
Incorporates the previous Chapters 4 (Preparatory Measures) and 5 (Operating Procedures). The Chapter says that each RCC (Rescue Co-ordination Centre) and RSC (Rescue Sub-Centre) should have up-to-date information on search and rescue facilities and communications in the area and should have detailed plans for conduct of search and rescue operations. Parties individually or in co-operation with others should be capable of receiving distress alerts on a 24-hour basis. The regulations include procedures to be followed during an emergency and state that search and rescue activities should be co-ordinated on scene for the most effective results. The Chapter says that "Search and rescue operations shall continue, when practicable, until all reasonable hope of rescuing survivors has passed".

**Chapter 5 - Ship reporting systems**
Includes recommendations on establishing ship reporting systems for search and rescue purposes, noting that existing ship reporting systems could provide adequate information for search and rescue purposes in a given area.

IAMSAR Manual
Concurrently with the revision of the SAR Convention, the IMO and the International Civil Aviation Organization (ICAO) jointly developed the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual, published in three volumes covering Organization and Management; Mission Co-ordination; and Mobile Facilities.

2004 amendments - persons in distress at sea

Adoption: May 2004
Entry into force: 1 January 2006

The amendments to the Annex to the Convention include:

- addition of a new paragraph in chapter 2 (Organization and co-ordination) relating to definition of persons in distress;
- new paragraphs in chapter 3 (Co-operation between States) relating to assistance to the master in delivering persons rescued at sea to a place of safety; and
- a new paragraph in chapter 4 (Operating procedures) relating to rescue co-ordination centres initiating the process of identifying the most appropriate places for disembarking persons found in distress at sea.

The MARPOL Convention is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes. It is a combination of two treaties adopted in 1973 and 1978 respectively and updated by amendments.

The International Convention for the Prevention of Pollution from Ships (MARPOL) was adopted on 2 November 1973 and covered pollution by oil, chemicals, harmful substances in packaged form, sewage and garbage (regulations on air pollution were adopted in 1997). The Protocol of 1978 relating to the 1973 International Convention for the Prevention of Pollution from Ships (1978 MARPOL Protocol) was adopted at a Conference on Tanker Safety and Pollution Prevention in February 1978 held in response to a spate of tanker accidents in 1976-1977. (Measures relating to tanker design and operation were also incorporated into a Protocol of 1978 relating to the 1974 Convention on the Safety of Life at Sea, 1974).

As the 1973 MARPOL Convention had not yet entered into force, the 1978 MARPOL Protocol absorbed the parent Convention. The combined instrument is referred to as the International Convention for the Prevention of Marine Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), and it entered into force on 2 October 1983 (Annexes I and II).

The Convention includes regulations aimed at preventing and minimizing pollution from ships - both accidental pollution and that from routine operations - and currently includes six technical Annexes:

- Annex I - Regulations for the Prevention of Pollution by Oil
- Annex II - Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk
- Annex III - Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form
- Annex IV - Prevention of Pollution by Sewage from Ships
- Annex V - Prevention of Pollution by Garbage from Ships
- Annex VI - Prevention of Air Pollution from Ships

States Parties must accept Annexes I and II, but the other Annexes are voluntary.

History of MARPOL 73/78
Oil pollution of the seas was recognized as a problem in the first half of the 20th century and various countries introduced national regulations to control discharges of oil within their territorial waters. In 1954, the International Convention for the Prevention of Pollution of the Sea by Oil (OILPOL), 1954 was adopted and the depository and Secretariat functions in relation to the Convention were transferred to IMO when the Organization began operations in 1959.

The 1954 Convention, which was amended in 1962, 1969 and 1971, primarily addressed pollution resulting from routine tanker operations and from the discharge of oily wastes from machinery spaces.

In 1967, the tanker Torrey Canyon ran aground while entering the English Channel and spilled her entire cargo of 120,000 tons of crude oil into the sea, raising questions about measures then in place to prevent oil pollution from ships and exposing deficiencies in the existing system for providing compensation following accidents at sea.

An Extraordinary session of the IMO Council drew up a plan of action on technical and legal aspects of the Torrey Canyon incident. Then, the IMO Assembly decided in 1969 to convene
an international conference in 1973 to prepare a suitable international agreement for placing restraints on the contamination of the sea, land and air by ships. The International Convention for the Prevention of Pollution from Ships incorporated much of OILPOL 1954 and its amendments into Annex I, covering oil.

The Convention also addressed other forms of pollution from ships and other annexes covered chemicals, harmful substances carried in packaged form, sewage and garbage. The 1973 Convention also included two Protocols dealing with Reports on Incidents involving Harmful Substances and Arbitration.

The 1973 Convention required ratification by 15 States, with a combined merchant fleet of not less than 50 percent of world shipping by gross tonnage, to enter into force. By 1976, it had only received three ratifications - Jordan, Kenya and Tunisia - representing less than one percent of the world's merchant shipping fleet. States could become Party to the Convention by only ratifying Annexes I (oil) and II (chemicals). Annexes III to V, covering harmful goods in packaged form, sewage and garbage, were optional.


Additionally, the 1978 MARPOL Protocol allowed States to become Party to the Convention by first implementing Annex I (oil), as it was decided that Annex II (chemicals) would not become binding until three years after the Protocol entered into force. This gave States time to overcome technical problems in Annex II, which for some had been a major obstacle in ratifying the Convention. The 1978 MARPOL Protocol absorbed the parent Convention. The combined instrument - the International Convention for the Prevention of Marine Pollution from Ships, 1973 as modified by the Protocol of 1978 relating thereto (MARPOL 73/78) - entered into force on 2 October 1983 (for Annexes I and II).

**MARPOL Annexes**

**Annex I: Prevention of pollution by oil**

**Entry into force:** 2 October 1983

The annex includes regulations covering operational discharges of oil from tankers and requires an oil record book, to record the movement of cargo oil and its residues from loading to discharging on a tank-to-tank basis.

A number of "special areas" are identified in the Annex in which oil discharges are completely prohibited, with minor and well-defined exceptions:

- Mediterranean Sea area
- Baltic Sea area
- Black Sea Area
- Red Sea area
- “Gulfs” area
- Gulf of Aden area
- Antarctic area
- North West European Waters
- Oman Sea area of the Arabian Seas (from 1 January 2007).

Double hulls for oil tankers were made mandatory in the 1992 amendments with a phase-out schedule for single hull tankers.
Annex II: Control of pollution by noxious liquid substances
Entry into force: 6 April 1987

Annex II details the discharge criteria and measures for the control of pollution by noxious liquid substances carried in bulk. The discharge of their residues is allowed only to reception facilities until certain concentrations and conditions (which vary with the category of substances) are complied with. In any case, no discharge of residues containing noxious substances is permitted within 12 miles of the nearest land. The Annex identifies the following special areas with strict controls on tank washing and residue discharge procedures:
- Baltic Sea area
- Black Sea Area
- Antarctic area

Annex III: Prevention of pollution by harmful substances in packaged form
Entry into force: 1 July 1992

Annex III contains general requirements for the issuing of detailed standards on packing, marking, labelling, documentation, stowage, quantity limitations, exceptions and notifications for preventing pollution by harmful substances.

The International Maritime Dangerous Goods (IMDG) Code identifies products which are considered to be marine pollutants.

Annex IV: Prevention of pollution by sewage from ships
Entry into force: 27 September 2003

Annex IV contains requirements to control pollution of the sea by sewage. A revised Annex was adopted on 1 April 2004, with an entry into force date of 1 August 2005.

Annex V: Prevention of pollution by garbage from ships
Entry into force: 31 December 1988

This deals with different types of garbage and specifies the distances from land and the manner in which they may be disposed of. The requirements are much stricter in a number of "special areas":
- Mediterranean Sea area
- Baltic Sea area
- Black Sea Area
- Red Sea area
- “Gulfs” area
- North Sea
- Antarctic area (south of latitude 60 degrees south)
- Wider Caribbean region including the Gulf of Mexico and the Caribbean Sea

There is a complete ban on the dumping into the sea of all forms of plastic.

Annex VI: Prevention of Air Pollution from Ships
Adopted September 1997
Entry into force: 19 May 2005

The Annex sets limits on sulphur oxide and nitrogen oxide emissions from ship exhausts and prohibits deliberate emissions of ozone depleting substances.

The annex establishes the Baltic Sea area as a "SOx Emission Control Areas" with more stringent controls on sulphur emissions from ships. The North Sea will also become a special SOx emission control area.
The 1984 amendments
Adoption: 7 September 1984
Entry into force: 7 January 1986

New requirements were designed to prevent oily water being discharged in special areas.

The 1985 (Annex II) amendments
Adoption: 5 December 1985
Entry into force: 6 April 1987

The amendments to Annex II, were intended to take into account technological developments since the Annex was drafted in 1973 and to simplify its implementation. The amendments also made the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) mandatory for ships built on or after 1 July 1986.

The 1985 (Protocol I) amendments
Adoption: 5 December 1985
Entry into force: 6 April 1987

The amendments made it an explicit requirement to report incidents involving discharge into the sea of harmful substances in packaged form.

The 1987 amendments
Adoption: December 1987
Entry into force: 1 April 1989

The amendments extended Annex I Special Area status to the Gulf of Aden.

1989 (March) amendments
Adoption: March 1989
Entry into force: 13 October 1990

The 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) included a revised list of chemicals. The list of chemicals in appendices II and III of Annex II was updated.

The October 1989 amendments
Adoption: 17 October 1989
Entry into force: 18 February 1991

The amendments make the North Sea a "special area" under Annex V of the convention.

The 1990 (HSSC) amendments
Adoption: March 1990
Entry into force: 3 February 2000

The amendments introduced the harmonized system of survey and certificates (HSSC) into MARPOL 73/78 at the same time as for the SOLAS and Load Lines Conventions.

The 1990 (IBC Code) amendments
Adoption: March 1990
Entry into force: 3 February 2000.

The amendments introduced the HSSC into the IBC Code.
The 1990 (BCH) amendments
Adoption: March 1990
Entry into force: 3 February 2000.

The amendments introduced the HSSC into the BCH Code.

The 1990 (Annexes I and V) amendments
Adoption: November 1990
Entry into force: 17 March 1992

The amendments extended Special Area Status under Annexes I and V to the Antarctic.

The 1991 amendments
Adoption: 4 July 1991
Entry into force: 4 April 1993

The amendments made the Wider Caribbean a Special Area under Annex V. Other amendments added a new chapter IV to Annex I, requiring ships to carry an oil pollution emergency plan. For existing ships, the requirements can be deferred for two years.

The 1992 amendments
Adoption: 6 March 1992
Entry into force: 6 July 1993

The amendments to Annex I brought in the "double hull" requirements for tankers, applicable to new ships (tankers ordered after 6 July 1993, whose keels were laid on or after 6 January 1994 or which are delivered on or after 6 July 1996) as well as existing ships built before that date, with a phase-in period. New-build tankers are covered by Regulation 13F, while regulation 13G applies to existing crude oil tankers of 20,000 dwt and product carriers of 30,000 dwt and above. Regulation 13G came into effect on 6 July 1995.

Regulation 13F requires all new tankers of 5,000 dwt and above to be fitted with double hulls separated by a space of up to 2 metres (on tankers below 5,000 dwt the space must be at least 0.76m). As an alternative, tankers may incorporate the "mid-deck" concept under which the pressure within the cargo tank does not exceed the external hydrostatic water pressure. Tankers built to this design have double sides but not a double bottom. Instead, another deck is installed inside the cargo tank with the venting arranged in such a way that there is an upward pressure on the bottom of the hull.

Other methods of design and construction may be accepted as alternatives "provided that such methods ensure at least the same level of protection against oil pollution in the event of a collision or stranding and are approved in principle by the Marine Environment Protection Committee based on guidelines developed by the Organization."

For oil tankers of 20,000 dwt and above new requirements were introduced concerning subdivision and stability.

The amendments also considerably reduced the amount of oil which can be discharged into the sea from ships (for example, following the cleaning of cargo tanks or from engine room bilges). Originally oil tankers were permitted to discharge oil or oily mixtures at the rate of 60 litres per nautical mile. The amendments reduced this to 30 litres. For non-tankers of 400 grt and above the permitted oil content of the effluent which may be discharged into the sea is cut from 100 parts per million to 15 parts per million.

The Regulation dealing with the limitation of size and arrangement of cargo tanks, was also modified.

Regulation 13G applies to existing crude oil tankers of 20,000 dwt and product carriers of 30,000 dwt and above. It phased in the requirements for double hull tankers to existing tankers.

The 1994 amendments
Adoption: 13 November 1994
Entry into force: 3 March 1996

The amendments make it possible for ships to be inspected when in the ports of other Parties to the Convention to ensure that crews are able to carry out essential shipboard procedures relating to marine pollution prevention.

The 1995 amendments
Adoption: 14 September 1995
Entry into force: 1 July 1997

The amendments in Annex V are designed to improve the way the Convention is implemented. Regulation 2 was clarified and a new regulation 9 added dealing with placards, garbage management plans and garbage record keeping.

The 1996 amendments
Adoption: 10 July 1996
Entry into force: 1 January 1998

Amendments to Protocol I included more precise requirements for the sending of reports of incidents involving harmful substances. Other amendments brought requirements in MARPOL concerning the IBC and BCH Codes into line with amendments adopted to SOLAS.

The 1997 amendments
Adoption: 23 September 1997
Entry into force: 1 February 1999

Intact stability criteria for double hull tankers were adopted.

The North West European waters was made a "special area" in Annex 1.

The Protocol of 1997 (Annex VI - Regulations for the Prevention of Air Pollution from Ships)
Adoption: 26 September 1997
Entry into force: 19 May 2005

The Protocol was adopted at a Conference and adds a new Annex VI on Regulations for the Prevention of Air Pollution from Ships. The rules will set limits on sulphur oxide (SOx) and nitrogen oxide (NOx) emissions from ship exhausts and prohibit deliberate emissions of ozone depleting substances.

Annex VI includes a global cap of 4.5% m/m on the sulphur content of fuel oil and calls on IMO to monitor the worldwide average sulphur content of fuel once the Protocol comes into force.

Provisions allow for special "SOx Emission Control Areas" to be established with more stringent control on sulphur emissions. In these areas, the sulphur content of fuel oil used on board ships must not exceed 1.5% m/m. Alternatively, ships must fit an exhaust gas cleaning system or use any other technological method to limit SOx emissions. The Baltic Sea is designated as a SOx Emission Control area in the Protocol.

Annex VI prohibits deliberate emissions of ozone depleting substances, which include halons and chlorofluorocarbons (CFCs). New installations containing ozone-depleting substances are prohibited on all ships. But new installations containing hydro-chlorofluorocarbons (HCFCs) are permitted until 1 January 2020.
The requirements of the IMO Protocol are in accordance with the Montreal Protocol of 1987, as amended in London in 1990.

Annex VI sets limits on emissions of nitrogen oxides (NOx) from diesel engines. A mandatory NOx Technical Code, developed by IMO, defines how this is to be done.

The Annex also prohibits the incineration on board ship of certain products, such as contaminated packaging materials and polychlorinated biphenyls (PCBs).

**The 1999 amendments**

**Adoption:** 1 July 1999  
**Entry into force:** 1 January 2001

Amendments to Regulation 13G of Annex I (Regulations for the Prevention of Pollution by Oil) make existing oil tankers between 20,000 and 30,000 tons deadweight carrying persistent product oil, including heavy diesel oil and fuel oil, subject to the same construction requirements as crude oil tankers. The amendments extend the application from applying to crude oil tankers of 20,000 tons deadweight and above and product carriers of 30,000 tons deadweight and above, to also apply to tankers between 20,000 and 30,000 tons deadweight which carry heavy diesel oil or fuel oil. The aim of the amendments is to address concerns that oil pollution incidents involving persistent oils are as severe as those involving crude oil, so regulations applicable to crude oil tankers should also apply to tankers carrying persistent oils.

Related amendments to the Supplement of the IOPP (International Oil Pollution Prevention) Certificate, covering in particular oil separating/filtering equipment and retention and disposal of oil residues were also adopted.

An amendment to Annex II adds a new regulation requiring a Shipboard marine pollution emergency plan for noxious liquid substances.

Amendments were also made 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). The amendments address the maintenance of venting systems.

**The 2000 amendments**

**Adoption:** 13 March 2000  
**Entry into force:** 1 January 2002

The amendment to Annex III deletes tainting as a criterion for marine pollutants from the Guidelines for the identification of harmful substances in packaged form. Tainting refers to the ability of a product to be taken up by an organism and thereby affect the taste or smell of seafood making it unpalatable. A substance is defined as tainting when it has been found to taint seafood. Products identified as being marine pollutants solely on the basis of their tainting properties will no longer be classified as marine pollutants.

**The 2001 amendments**

**Adoption:** 27 April 2001  
**Entry into force:** 1 September 2002

The amendment to Annex I brings in a new global timetable for accelerating the phase-out of single-hull oil tankers. The timetable will see most single-hull oil tankers eliminated by 2015 or earlier.

As an additional precautionary measure, a Condition Assessment Scheme (CAS) is applied to all Category 1 vessels continuing to trade after 2005 and all Category 2 vessels after 2010. Although the CAS does not specify structural standards in excess of the provisions of other IMO conventions, codes and recommendations, its requirements stipulate more stringent and
transparent verification of the reported structural condition of the ship and that documentary and survey procedures have been properly carried out and completed.

The requirements of the CAS include enhanced and transparent verification of the reported structural condition and verification that the documentary and survey procedures have been properly carried out and completed. The Scheme requires that compliance with the CAS is assessed during the Enhanced Survey Programme of Inspections concurrent with intermediate or renewal surveys currently required by resolution A.744(18), as amended.

**The 2003 Amendments**

**Adoption:** 4 December 2003

**Entry into force:** 5 April 2005

Under a revised regulation 13G of Annex I of MARPOL, the final phasing-out date for Category 1 tankers (pre-MARPOL tankers) is brought forward to 2005, from 2007. The final phasing-out date for category 2 and 3 tankers (MARPOL tankers and smaller tankers) is brought forward to 2010, from 2015.

The full timetable for the phasing out of single-hull tankers is as follows:

<table>
<thead>
<tr>
<th>Category of oil tanker</th>
<th>Date or year</th>
</tr>
</thead>
</table>
| **Category 1**         | 5 April 2005 for ships delivered on 5 April 1982 or earlier  
Anniversary date in 2005 for ships delivered after 5 April 1982 |
| **Category 2 and Category 3** | 5 April 2005 for ships delivered on 5 April 1977 or earlier  
Anniversary date in 2005 2005 for ships delivered after 5 April 1977 but before 1 January 1978  
Anniversary date in 2005 2005 for ships delivered before 1 January 1978 but after 5 April 1977  
Anniversary date in 2005 2006 for ships delivered in 1978 and 1979  
Anniversary date in 2005 2007 for ships delivered in 1980 and 1981  
Anniversary date in 2005 2008 for ships delivered in 1982  
Anniversary date in 2005 2009 for ships delivered in 1983  
Anniversary date in 2005 2010 for ships delivered in 1984 or later |

The Condition Assessment Scheme (CAS) is made applicable to all single-hull tankers of 15 years, or older. Previously it was applicable to all Category 1 vessels continuing to trade after 2005 and all Category 2 vessels after 2010. Consequential enhancements to the CAS scheme were also adopted.

The revised regulation allows the Administration (flag State) to permit continued operation of category 2 or 3 tankers beyond 2010 subject to satisfactory results from the CAS, but the continued operation must not go beyond the anniversary of the date of delivery of the ship in 2015 or the date on which the ship reaches 25 years of age after the date of its delivery, whichever is earlier.

In the case of certain Category 2 or 3 oil tankers fitted with only double bottoms or double sides not used for the carriage of oil and extending to the entire cargo tank length or double hull spaces, not meeting the minimum distance protection requirements, which are not used for the carriage of oil and extend to the entire cargo tank length, the Administration may allow continued operation beyond 2010, provided that the ship was in service on 1 July 2001, the Administration is satisfied by verification of the official records that the ship complied with the conditions specified and that those conditions remain unchanged. Again, such continued operation must not go beyond the date on which the ship reaches 25 years of age after the date of its delivery.

**Carriage of heavy grade oil**

A new MARPOL regulation 13H on the prevention of oil pollution from oil tankers when carrying heavy grade oil (HGO) bans the carriage of HGO in single-hull tankers of 5,000 tons dwt and above after the date of entry into force of the regulation (5 April 2005), and in single-hull oil tankers of 600 tons dwt and above but less than 5,000 tons dwt, not later than the anniversary of their delivery date in 2008.

In the case of certain Category 2 or 3 tankers carrying heavy grade oil as cargo, fitted only with double bottoms or double sides, not used for the carriage of oil and extending to the entire cargo
tank length, or double hull spaces not meeting the minimum distance protection requirements
which are not used for the carriage of oil and extend to the entire cargo tank length, the
Administration may allow continued operation of such ships beyond 5 April 2005 until the date
on which the ship reaches 25 years of age after the date of its delivery.
Regulation 13(H) also allows for continued operation of oil tankers of 5,000 tons dwt and above,
carrying crude oil with a density at 15°C higher than 900 kg/ m³ but lower than 945 kg/ m³, if
satisfactory results of the Condition Assessment Scheme warrant that, in the opinion of the
Administration, the ship is fit to continue such operation, having regard to the size, age,
operational area and structural conditions of the ship and provided that the continued operation
shall not go beyond the date on which the ship reaches 25 years after the date of its delivery.
The Administration may allow continued operation of a single hull oil tanker of 600 tons
deadweight and above but less than 5,000 tons deadweight, carrying heavy grade oil as cargo,
if, in the opinion of the Administration, the ship is fit to continue such operation, having regard to
the size, age, operational area and structural conditions of the ship, provided that the operation
shall not go beyond the date on which the ship reaches 25 years after the date of its delivery.
The Administration of a Party to the present Convention may exempt an oil tanker of 600 tons
deadweight and above carrying heavy grade oil as cargo if the ship is either engaged in voyages
exclusively within an area under the Party's jurisdiction, or is engaged in voyages exclusively
within an area under the jurisdiction of another Party, provided the Party within whose
jurisdiction the ship will be operating agrees. The same applies to vessels operating as floating
storage units of heavy grade oil.
A Party to MARPOL 73/78 shall be entitled to deny entry of single hull tankers carrying heavy
grade oil which have been allowed to continue operation under the exemptions mentioned
above, into the ports or offshore terminals under its jurisdiction, or deny ship-to-ship transfer of
heavy grade oil in areas under its jurisdiction except when this is necessary for the purpose of
securing the safety of a ship or saving life at sea.

The 2004 (April) Amendments
Adoption: 1 April 2004
Entry into force: 1 August 2005

A revised Annex IV was adopted. It will apply to new ships engaged in international voyages, of
400 gross tonnage and above or which are certified to carry more than 15 persons. Existing
ships will be required to comply with the provisions of the revised Annex IV five years after the
date of its entry into force. The Annex requires ships to be equipped with either a sewage
treatment plant or a sewage comminuting and disinfecting system or a sewage holding tank.
The discharge of sewage into the sea will be prohibited, except when the ship has in operation
an approved sewage treatment plant and is discharging comminuted and disinfected sewage
using an approved system at a distance of more than three nautical miles from the nearest land;
or is discharging sewage which is not comminuted or disinfected at a distance of more than 12
nautical miles from the nearest land.
Also, amendments to the Appendix to MARPOL Annex V on Prevention of pollution by garbage
from ships which relate to the recording of the disposal of cargo residues in the Garbage Record
Book.

The 2004 (October) Amendments
Adoption: 15 October 2004
Entry into force: 1 January 2007
Revised MARPOL Annex I (oil)
The revised MARPOL Annex I Regulations for the prevention of pollution by oil incorporates the
various amendments adopted since MARPOL entered into force in 1983, including the amended
regulation 13G (regulation 20 in the revised annex) and regulation 13H (regulation 21 in the
revised annex) on the phasing-in of double hull requirements for oil tankers. It also separates, in different chapters, the construction and equipment provisions from the operational requirements and makes clear the distinctions between the requirements for new ships and those for existing ships. The revision provides a more user-friendly, simplified Annex I.

New requirements in the revised Annex I include the following:

- Regulation 22 Pump-room bottom protection: on oil tankers of 5,000 tonnes deadweight and above constructed on or after 1 January 2007, the pump-room shall be provided with a double bottom.
- Regulation 23 Accidental oil outflow performance - construction requirements to provide adequate protection against oil pollution in the event of stranding or collision.

**Oman Sea - new special area under MARPOL Annex I**

The Oman Sea area of the Arabian Seas is designated a special area in the revised Annex I. The other special areas in Annex I are: Mediterranean Sea area; Baltic Sea area; Black Sea area; Red Sea area; "Gulfs" area; Gulf of Aden area; Antarctic area; and North West European Waters. In the special areas, there are stricter controls on discharge of oily wastes.

**Revised MARPOL Annex II (noxious liquid substances carried in bulk)**

The revised Annex II *Regulations for the control of pollution by noxious liquid substances in bulk* includes a new four-category categorization system for noxious and liquid substances. The revised annex is expected to enter into force on 1 January 2007.

The new categories are:

- **Category X**: Noxious Liquid Substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a major hazard to either marine resources or human health and, therefore, justify the prohibition of the discharge into the marine environment;
- **Category Y**: Noxious Liquid Substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a hazard to either marine resources or human health or cause harm to amenities or other legitimate uses of the sea and therefore justify a limitation on the quality and quantity of the discharge into the marine environment;
- **Category Z**: Noxious Liquid Substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a minor hazard to either marine resources or human health and therefore justify less stringent restrictions on the quality and quantity of the discharge into the marine environment; and
- **Other Substances**: substances which have been evaluated and found to fall outside Category X, Y or Z because they are considered to present no harm to marine resources, human health, amenities or other legitimate uses of the sea when discharged into the sea from tank cleaning of deballasting operations. The discharge of bilge or ballast water or other residues or mixtures containing these substances are not subject to any requirements of MARPOL Annex II.

The revised annex includes a number of other significant changes. Improvements in ship technology, such as efficient stripping techniques, has made possible significantly lower permitted discharge levels of certain products which have been incorporated into Annex II. For ships constructed on or after 1 January 2007 the maximum permitted residue in the tank and its associated piping left after discharge will be set at a maximum of 75 litres for products in categories X, Y and Z - compared with previous limits which set a maximum of 100 or 300 litres, depending on the product category.

Alongside the revision of Annex II, the marine pollution hazards of thousands of chemicals have been evaluated by the Evaluation of Hazardous Substances Working Group, giving a resultant GESAMP2 Hazard Profile which indexes the substance according to its bio-accumulation; bio-degradation; acute toxicity; chronic toxicity; long-term health effects; and effects on marine wildlife and on benthic habitats.
As a result of the hazard evaluation process and the new categorization system, vegetable oils which were previously categorized as being unrestricted will now be required to be carried in chemical tankers. The revised Annex includes, under regulation 4 Exemptions, provision for the Administration to exempt ships certified to carry individually identified vegetable oils, subject to certain provisions relating to the location of the cargo tanks carrying the identified vegetable oil.

**Transport of vegetable oils**

An MEPC resolution on *Guidelines for the transport of vegetable oils in deep tanks or in independent tanks specially designed for the carriage of such vegetable oils on board dry cargo ships* allows general dry cargo ships that are currently certified to carry vegetable oil in bulk to continue to carry these vegetable oils on specific trades. The guidelines also take effect on 1 January 2007.

**Consequential amendments to the IBC Code**

Consequential amendments to the International Bulk Chemical Code (IBC Code) were also adopted in October 2004, reflecting the changes to MARPOL Annex II. The amendments incorporate revisions to the categorization of certain products relating to their properties as potential marine pollutants as well as revisions to ship type and carriage requirements following their evaluation by the Evaluation of Hazardous Substances Working Group. Ships constructed after 1986 carrying substances identified in chapter 17 of the IBC Code must follow the requirements for design, construction, equipment and operation of ships contained in the Code.

**The 2005 Amendments**

*Adoption:* 22 July 2005  
*Entry into force:* 21 November 2006

The amendments to the *Regulations for the Prevention of Air Pollution from Ships* in Annex VI include the establishment of the North Sea SOx Emission Control Area (SECA).

The NOx Technical Code was also updated.

**The 2006 Amendments**

*Adoption:* March 2006  
*Entry into force:* 1 August 2007

**MARPOL regulation on oil fuel tank protection**

The amendment to the revised MARPOL Annex I (which was adopted in October 2004 with entry into force set for 1 January 2007) includes a new regulation 12A on oil fuel tank protection. The regulation is intended to apply to all ships delivered on or after 1 August 2010 with an aggregate oil fuel capacity of 600m$^3$ and above. It includes requirements for the protected location of the fuel tanks and performance standards for accidental oil fuel outflow. A maximum capacity limit of 2,500m$^3$ per oil fuel tank is included in the regulation, which also requires Administrations to consider general safety aspects, including the need for maintenance and inspection of wing and double-bottom tanks or spaces, when approving the design and construction of ships in accordance with the regulation. Consequential amendments to the IOPP Certificate were also adopted.

The MEPC also agreed to include appropriate text referring to the new regulation in the amendments to the *Guidelines for the application of the revised MARPOL Annex I requirements to FPSOs and FSUs* and approved a Unified Interpretation on the application of the regulation to column-stabilized MODUs.

**Definition of heavy grade oil**

A further amendment to the revised MARPOL Annex I relates to the definition of "heavy grade oil" in regulation 21 on *Prevention of oil pollution from oil tankers carrying heavy grade oil* as
cargo, replacing the words "fuel oils" with "oils, other than crude oils", thereby broadening the scope of the regulation.

**MARPOL Annex IV amendments**
The amendment to MARPOL Annex IV *Prevention of pollution by sewage from ships* adds a new regulation 13 on *Port State control on operational requirements*. The regulation states that a ship, when in a port or an offshore control terminal of another Party, is subject to inspection by officers duly authorized by such Party concerning operational requirements under the Annex, where there are clear grounds for believing that the master or crew are not familiar with essential shipboard procedures relating to the prevention of pollution by sewage.

**Amendments to BCH Code**
Amendments to the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH Code) were adopted as a consequence of the revised Annex II of MARPOL 73/78 and the amended International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (IBC Code), which are expected to enter into force on 1 January 2007. The MEPC also adopted a resolution on *Early and Effective Application of the 2006 amendments to the BCH Code* to invite MARPOL Parties to consider the application of the amendments to the BCH Code, as soon as practically possible, to ships entitled to fly their flag. Also adopted were the revised *Guidelines for the provisional assessment of liquids transported in bulk*. In this context the Committee urged industry, in particular the chemical industry, to provide information on the revision of List 2 of the MEPC circular which contains pollutant-only mixtures based on section 5 of the revised Guidelines.

**The 2006 Amendments**

- **Adoption:** October 2006
- **Entry into force:** 1 March 2008/1 January 2010

**Entry into force:** 1 March 2008
The designation of the Southern South Africa waters as a Special Area under Annex I (*Regulations for the prevention of pollution by oil from ships*), will provide measures to protect wildlife and the marine environment in an ecologically important region used intensively by shipping.

**Entry into force:** 1 January 2010
The revised MARPOL Annex III *Regulations for the prevention of pollution by harmful substances carried by sea in packaged form*. The Annex has been revised to harmonize the regulations with the criteria for defining marine pollutants which have been adopted by the UN Transport of Dangerous Goods (TDG) Sub-Committee, based on the *United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS)*.

**The 2008 amendments**


The main changes to MARPOL Annex VI will see a progressive reduction in sulphur oxide (SOx) emissions from ships, with the global sulphur cap reduced initially to 3.50% (from the current 4.50%), effective from 1 January 2012; then progressively to 0.50 %, effective from 1 January 2020, subject to a feasibility review to be completed no later than 2018.
International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969

Adoption: 29 November 1969  
Entry into force: 6 May 1975

The Torrey Canyon disaster of 1967 revealed certain doubts with regard to the powers of States, under public international law, in respect of incidents on the high seas. In particular, questions were raised as to the extent to which a coastal State could take measures to protect its territory from pollution where a casualty threatened that State with oil pollution, especially if the measures necessary were likely to affect the interests of foreign shipowners, cargo owners and even flag States.

The general consensus was that there was need for a new regime which, while recognizing the need for some State intervention on the high seas in cases of grave emergency, clearly restricted that right to protect other legitimate interests. A conference to consider such a regime was held in Brussels in 1969.

The Convention affirms the right of a coastal State to take such measures on the high seas as may be necessary to prevent, mitigate or eliminate danger to its coastline or related interests from pollution by oil or the threat thereof, following upon a maritime casualty.

The coastal State is, however, empowered to take only such action as is necessary, and after due consultations with appropriate interests including, in particular, the flag State or States of the ship or ships involved, the owners of the ships or cargoes in question and, where circumstances permit, independent experts appointed for this purpose. A coastal State which takes measures beyond those permitted under the Convention is liable to pay compensation for any damage caused by such measures. Provision is made for the settlement of disputes arising in connection with the application of the Convention.

The Convention applies to all seagoing vessels except warships or other vessels owned or operated by a State and used on Government non-commercial service.

The Protocol of 1973

Adoption: 2 November 1973  
Entry into force: 30 March 1983

The 1969 Intervention Convention applied to casualties involving pollution by oil. The Protocol relating to Intervention on the High Seas in Cases of Marine Pollution by Substances other than Oil extended the regime of the 1969 Intervention Convention to substances which are either listed in the Annex to the Protocol or which have characteristics substantially similar to those substances.

The 1991 amendments

Adoption: 4 July 1991  
Entry into force: 30 March 1993

The amendments revised the list of substances attached to the 1973 Protocol.

The 1996 amendments

Adoption: 10 July 1996  
Entry into force: 19 December 1997

The amendments revised the list of substances attached to the 1973 Protocol.
The 2002 amendments
Adoption: 11 October 2002
Entry into force: 22 June 2004

The amendments revised the list of substances attached to the 1973 Protocol
Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972

Adoption: 13 November 1972
Entry into force: 30 August 1975

Revised by the 1996 Protocol

The Inter-Governmental Conference on the Convention on the Dumping of Wastes at Sea, which met in London in November 1972, adopted this instrument, generally known as the London Convention. When the Convention came into force on 30 August 1975, IMO was made responsible for the Secretariat duties related to it.

The Convention has a global character, and contributes to the international control and prevention of marine pollution. It prohibits the dumping of certain hazardous materials, requires a prior special permit for the dumping of a number of other identified materials and a prior general permit for other wastes or matter.

“Dumping” has been defined as the deliberate disposal at sea of wastes or other matter from vessels, aircraft, platforms or other man-made structures, as well as the deliberate disposal of these vessels or platforms themselves. Wastes derived from the exploration and exploitation of sea-bed mineral resources are, however, excluded from the definition. The provision of the Convention shall also not apply when it is necessary to secure the safety of human life or of vessels in cases of force majeure.

Among other requirements, Contracting Parties undertake to designate an authority to deal with permits, keep records, and monitor the condition of the sea. Other articles are designed to promote regional co-operation, particularly in the fields of monitoring and scientific research.

Annexes list wastes which cannot be dumped and others for which a special dumping permit is required. The criteria governing the issuing of these permits are laid down in a third Annex which deals with the nature of the waste material, the characteristics of the dumping site and method of disposal.

The 1978 amendments (incineration)
Adoption: 12 October 1978
Entry into force: 11 March 1979

The amendments to Annex I are concerned with the incineration of wastes and other matter at sea.

The 1978 (disputes)
Adoption: 12 October 1978
Entry into force: 60 days after being accepted by two thirds of Contracting Parties.
Status: The amendments have been accepted by 20 States

As these amendments affect the articles of the Convention they are not subject to the tacit acceptance procedure and will enter into force one year after being positively accepted by two thirds of Contracting Parties. They introduce new procedures for the settlement of disputes.

The 1980 amendments (list of substances)
Adoption: 24 September 1980
Entry into force: 11 March 1981

These amendments are related to those concerned with incineration and list substances which require special care when being incinerated.
The 1989 amendments  
**Adoption:** 3 November 1989  
**Entry into force:** 19 May 1990

The amendments qualify the procedures to be followed when issuing permits under Annex III. Before this is done, consideration has to be given to whether there is sufficient scientific information available to assess the impact of dumping.

The 1993 amendments  
**Adoption:** 12 November 1993  
**Entry into force:** 20 February 1994

The amendments banned the dumping into sea of low-level radioactive wastes. In addition, the amendments:  
* phased out the dumping of industrial wastes by 31 December 1995  
* banned the incineration at sea of industrial wastes.

Although all three disposal methods were previously permitted under the Convention, attitudes towards the use of the sea as a site for disposal of wastes have changed over the years. In 1983 the Contracting Parties to the LC adopted a resolution calling for a moratorium on the sea dumping of low-level radioactive wastes. Later resolutions called for the phasing-out of industrial waste dumping and an end to the incineration at sea of noxious liquid wastes.

1996 Protocol  
**Adoption:** 7 November 1996  
**Entry into force:** 30 days after ratification by 26 countries, 15 of whom must be Contracting Parties to the 1972 treaty.  
**Status:** 21 acceptances received. Five more parties are needed before the Protocol will enter into force. This is expected to happen during 2005.

The Protocol is intended to replace the 1972 Convention. It represents a major change of approach to the question of how to regulate the use of the sea as a depository for waste materials. One of the most important innovations is to introduce (in Article 3) what is known as the "precautionary approach". This requires that "appropriate preventative measures are taken when there is reason to believe that wastes or other matter introduced into the marine environment are likely to cause harm even when there is no conclusive evidence to prove a causal relation between inputs and their effects."

The article also states that "the polluter should, in principle, bear the cost of pollution" and it emphasizes that Contracting Parties should ensure that the Protocol should not simply result in pollution being transferred from one part of the environment to another.

The 1972 Convention permits dumping to be carried out provided certain conditions are met. The severity of these conditions varies according to the danger to the environment presented by the materials themselves and there is a "black list" containing materials which may not be dumped at all.

The Protocol is much more restrictive. Article 4 states that Contracting Parties "shall prohibit the dumping of any wastes or other matter with the exception of those listed in Annex 1." These are:

1. Dredged material  
2. Sewage sludge  
3. Fish waste, or material resulting from industrial fish processing operations  
4. Vessels and platforms or other man-made structures at sea  
5. Inert, inorganic geological material  
6. Organic material of natural origin
7. Bulky items primarily comprising iron, steel, concrete and similar unharmful materials for which the concern is physical impact and limited to those circumstances, where such wastes are generated at locations, such as small islands with isolated communities, having no practicable access to disposal options other than dumping.

The only exceptions to this are contained in Article 8 which permits dumping to be carried out “in cases of force majeure caused by stress of weather, or in any case which constitutes a danger to human life or a real threat to vessels...”

Incineration of wastes at sea was permitted under the 1972 Convention, but was later prohibited under amendments adopted in 1993. It is specifically prohibited by Article 5 of the 1996 Protocol.

In recent years concern has been expressed at the practice of exporting wastes which cannot be dumped at sea under the 1972 Convention to non-Contracting Parties. Article 6 of the Protocol states that "Contracting Parties shall not allow the export of wastes or other matter to other countries for dumping or incineration at sea."

Article 9 requires Contracting Parties to designate an appropriate authority or authorities to issue permits in accordance with the Protocol.

The Protocol recognizes the importance of implementation and Article 11 details compliance procedures under which, no later than two years after the entry into force of the Protocol, the Meeting of Contracting Parties "shall establish those procedures and mechanisms necessary to assess and promote compliance..."

A key provision is the so-called transitional period (Article 26) which allows new Contracting Parties to phase in compliance with the convention over a period of five years. This provision is supported by extended technical assistance provisions.

IMO is made responsible for Secretariat duties in relation to the Protocol (as it is by the 1972 Convention). Other Articles contain procedures for settling disputes (Article 16) and amendments. Amendments to the Articles shall enter into force "on the 60th day after two-thirds of Contracting Parties shall have deposited an instrument of acceptance of the amendment with the Organization" (meaning IMO).

The Protocol contains three annexes. Annex 1 is described above and the other two deal with assessment of wastes and arbitral procedures. Amendments to the annexes are adopted through a tacit acceptance procedure under which they will enter into force not later than 100 days after being adopted. The amendments will bind all Contracting Parties except those which have explicitly expressed their non-acceptance.

2006 amendments
Adoption: 2 November 2006
Entry into force: 10 February 2007


The amendments regulate the sequestration of CO₂ streams from CO₂ capture processes in sub-seabed geological formations, for permanent isolation, thereby creating a basis in international
environmental law to regulate this practice. It is likely that this option would apply to large point sources of CO₂ emissions, including power plants using fossil fuels, steel works and fuel processing plants.

Sequestration of CO₂ streams is intended to be part of a suite of measures to tackle the challenge of climate change and ocean acidification, including, first and foremost, the need to further develop and use low carbon forms of energy and conservation measures to reduce emissions.
International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990

Adoption: 30 November 1990
Entry into force: 13 May 1995

In July 1989, a conference of leading industrial nations in Paris called upon IMO to develop further measures to prevent pollution from ships. This call was endorsed by the IMO Assembly in November of the same year and work began on a draft convention aimed at providing a global framework for international co-operation in combating major incidents or threats of marine pollution.

Parties to the OPRC convention are required to establish measures for dealing with pollution incidents, either nationally or in co-operation with other countries.

Ships are required to carry a shipboard oil pollution emergency plan, the to be developed by IMO. Operators of offshore units under the jurisdiction of Parties are also required to have oil pollution emergency plans or similar arrangements which must be co-ordinated with national systems for responding promptly and effectively to oil pollution incidents.

Ships are required to report incidents of pollution to coastal authorities and the convention details the actions that are then to be taken. The convention calls for the establishment of stockpiles of oil spill combating equipment, the holding of oil spill combating exercises and the development of detailed plans for dealing with pollution incidents. Parties to the convention are required to provide assistance to others in the event of a pollution emergency and provision is made for the reimbursement of any assistance provided.

The Convention provides for IMO to play an important co-ordinating role.

Protocol on Preparedness, Response and Co-operation to pollution Incidents by Hazardous and Noxious Substances, 2000 (HNS Protocol)

Adoption: 15 March 2000
Entry into force: 14 June 2007

The Protocol on Preparedness, Response and Co-operation to pollution Incidents by Hazardous and Noxious Substances, 2000 (HNS Protocol) follows the principles of the International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990 (OPRC) and was formally adopted by States already Party to the OPRC Convention at a Diplomatic Conference held at IMO headquarters in London in March 2000.

Like the OPRC Convention, the HNS Protocol aims to provide a global framework for international co-operation in combating major incidents or threats of marine pollution. Parties to the HNS Protocol will be required to establish measures for dealing with pollution incidents, either nationally or in co-operation with other countries. Ships will be required to carry a shipboard pollution emergency plan to deal specifically with incidents involving HNS.

HNS are defined by reference to lists of substances included in various IMO Conventions and Codes. These include oils; other liquid substances defined as noxious or dangerous; liquefied gases; liquid substances with a flashpoint not exceeding 60°C; dangerous, hazardous and harmful materials and substances carried in packaged form; and solid bulk materials defined as possessing chemical hazards.
International Convention on the Control of Harmful Anti-fouling Systems on Ships

Adoption: 5 October 2001
Entry into force: 17 September 2008

The convention prohibits the use of harmful organotins in anti-fouling paints used on ships and will establish a mechanism to prevent the potential future use of other harmful substances in anti-fouling systems.

Under the terms of the new Convention, Parties to the Convention are required to prohibit and/or restrict the use of harmful anti-fouling systems on ships flying their flag, as well as ships not entitled to fly their flag but which operate under their authority and all ships that enter a port, shipyard or offshore terminal of a Party.

Ships of above 400 gross tonnage and above engaged in international voyages (excluding fixed or floating platforms, FSUs and FPSOs) will be required to undergo an initial survey before the ship is put into service or before the International Anti-fouling System Certificate is issued for the first time; and a survey when the anti-fouling systems are changed or replaced.

Ships of 24 metres or more in length but less than 400 gross tonnage engaged in international voyages (excluding fixed or floating platforms, FSUs and FPSOs) will have to carry a Declaration on Anti-fouling Systems signed by the owner or authorized agent. The Declaration will have to be accompanied by appropriate documentation such as a paint receipt or contractor invoice.

Anti-fouling systems to be prohibited or controlled will be listed in an annex (Annex 1) to the Convention, which will be updated as and when necessary.

The adoption of the new Convention marks the successful outcome of the task set by Chapter 17 of Agenda 21 developed by the 1992 Rio Conference on Environment and Development. Chapter 17 called on States to take measures to reduce pollution caused by organotins compounds used in anti-fouling systems.

As recommended by the 21st session of the IMO Assembly, the Conference agreed to an effective implementation date of 1 January 2003 for a ban on the application of organotin-based systems.

The harmful environmental effects of organotin compounds were recognized by IMO in 1989. In 1990 IMO's Marine Environment Protection Committee (MEPC) adopted a resolution which recommended that Governments adopt measures to eliminate the use of anti-fouling paint containing TBT on non-aluminium hulled vessels of less than 25 metres in length and eliminate the use of anti-fouling paints with a leaching rate of more than four microgrammes of TBT per day.

In November 1999, IMO adopted an Assembly resolution that called on the MEPC to develop an instrument, legally binding throughout the world, to address the harmful effects of anti-fouling systems used on ships. The resolution called for a global prohibition on the application of organotin compounds which act as biocides in anti-fouling systems on ships by 1 January 2003, and a complete prohibition by 1 January 2008.

Annex I attached to the Convention and adopted by the Conference states that by an effective date of 1 January 2003, all ships shall not apply or re-apply organotins compounds which act as biocides in anti-fouling systems. By 1 January 2008 (effective date), ships either:

(a) shall not bear such compounds on their hulls or external parts or surfaces; or
(b) shall bear a coating that forms a barrier to such compounds leaching from the underlying non-compliant anti-fouling systems.

This applies to all ships (including fixed and floating platforms, floating storage units (FSUs), and Floating Production Storage and Offtake units (FPSOs).

The Convention includes a clause in Article 12 which states that a ship shall be entitled to compensation if it is unduly detained or delayed while undergoing inspection for possible violations of the Convention.

The Convention provides for the establishment of a “technical group”, to include people with relevant expertise, to review proposals for other substances used in anti-fouling systems to be prohibited or restricted. Article 6 on Process for Proposing Amendments to controls on Anti-fouling systems sets out how the evaluation of an anti-fouling system should be carried out.

**Resolutions adopted by the Conference**
The Conference adopted four resolutions:

**Resolution 2 Future work of the Organization pertaining to the Convention** – The resolution invites IMO to develop guidelines for brief sampling of anti-fouling systems; guidelines for inspection of ships; and guidelines for surveys of ships. The guidelines are needed in order to ensure global and uniform application of the articles of the Convention which require sampling, inspection and surveys.

**Resolution 3 Approval and Test Methodologies for Anti-Fouling Systems on Ships** – This resolution invites States to approve, register or license anti-fouling systems applied in their territories. It also urges States to continue the work, in appropriate international fora, for the harmonization of test methods and performance standards for anti-fouling systems containing biocides.

**Resolution 4 Promotion of Technical Co-operation** – The resolution requests IMO Member States, in co-operation with IMO, other interested States, competent international or regional organizations and industry programmes, to promote and provide directly, or through IMO, support to States in particular developing States that request technical assistance for:

(a) the assessment of the implications of ratifying, accepting, approving, or acceding to and complying with the Convention;

(b) the development of national legislation to give effect to the Convention; and

(c) the introduction of other measures, including the training of personnel, for the effective implementation and enforcement of the Convention.

It also requests Member States, in co-operation with IMO, other interested States, competent international and regional organisation and industry programmes, to promote co-operation for scientific and technical research on the effects of anti-fouling systems as well as monitoring these effects.

**Background**
Anti-fouling paints are used to coat the bottoms of ships to prevent sealife such as algae and molluscs attaching themselves to the hull – thereby slowing down the ship and increasing fuel consumption.

The new Convention defines “anti-fouling systems” as “a coating, paint, surface treatment, surface or device that is used on a ship to control or prevent attachment of unwanted organisms”.

In the early days of sailing ships, lime and later arsenic were used to coat ships' hulls, until the modern chemicals industry developed effective anti-fouling paints using metallic compounds. These compounds slowly "leach" into the sea water, killing barnacles and other marine life that have attached to the ship. But the studies have shown that these compounds persist in the water, killing sealife, harming the environment and possibly entering the food chain. One of the most effective anti-fouling paints, developed in the 1960s, contains the organotin tributyltin (TBT), which has been proven to cause deformations in oysters and sex changes in whelks.
International Convention for the Control and Management of Ships' Ballast Water and Sediments

Adoption: 13 February 2004
Entry into force: 12 months after ratification by 30 States, representing 35 per cent of world merchant shipping tonnage.
Status: 21 ratifications at December 2009

The Convention is divided into Articles; and an Annex which includes technical standards and requirements in the Regulations for the control and management of ships' ballast water and sediments.

The main features of the Convention are outlined below.

Entry into force
The Convention will enter into force 12 months after ratification by 30 States, representing 35 per cent of world merchant shipping tonnage (Article 18 Entry into force).

General Obligations
Under Article 2 General Obligations Parties undertake to give full and complete effect to the provisions of the Convention and the Annex in order to prevent, minimize and ultimately eliminate the transfer of harmful aquatic organisms and pathogens through the control and management of ships' ballast water and sediments.
Parties are given the right to take, individually or jointly with other Parties, more stringent measures with respect to the prevention, reduction or elimination of the transfer of harmful aquatic organisms and pathogens through the control and management of ships' ballast water and sediments, consistent with international law. Parties should ensure that ballast water management practices do not cause greater harm than they prevent to their environment, human health, property or resources, or those of other States.

Reception facilities
Under Article 5 Sediment Reception Facilities Parties undertake to ensure that ports and terminals where cleaning or repair of ballast tanks occurs, have adequate reception facilities for the reception of sediments.

Research and monitoring
Article 6 Scientific and Technical Research and Monitoring calls for Parties individually or jointly to promote and facilitate scientific and technical research on ballast water management; and monitor the effects of ballast water management in waters under their jurisdiction.

Survey, certification and inspection
Ships are required to be surveyed and certified (Article 7 Survey and certification) and may be inspected by port State control officers (Article 9 Inspection of Ships) who can verify that the ship has a valid certificate; inspect the Ballast Water Record Book; and/or sample the ballast water. If there are concerns, then a detailed inspection may be carried out and "the Party carrying out the inspection shall take such steps as will ensure that the ship shall not discharge Ballast Water until it can do so without presenting a threat of harm to the environment, human health, property or resources."
All possible efforts shall be made to avoid a ship being unduly detained or delayed (Article 12 Undue Delay to Ships).

Technical assistance
Under Article 13 Technical Assistance, Co-operation and Regional Co-operation, Parties undertake, directly or through the Organization and other international bodies, as appropriate, in respect of the control and management of ships' ballast water and sediments, to provide support for those Parties which request technical assistance to train personnel; to ensure the availability of relevant technology, equipment and facilities; to initiate joint research and development
programmes; and to undertake other action aimed at the effective implementation of this Convention and of guidance developed by the Organization related thereto.

**Annex - Section A General Provisions**

This includes definitions, application and exemptions. Under Regulation A-2 General Applicability: "Except where expressly provided otherwise, the discharge of Ballast Water shall only be conducted through Ballast Water Management, in accordance with the provisions of this Annex."

**Annex - Section B Management and Control Requirements for Ships**

Ships are required to have on board and implement a Ballast Water Management Plan approved by the Administration (Regulation B-1). The Ballast Water Management Plan is specific to each ship and includes a detailed description of the actions to be taken to implement the Ballast Water Management requirements and supplemental Ballast Water Management practices.

Ships must have a Ballast Water Record Book (Regulation B-2) to record when ballast water is taken on board; circulated or treated for Ballast Water Management purposes; and discharged into the sea. It should also record when Ballast Water is discharged to a reception facility and accidental or other exceptional discharges of Ballast Water.

The specific requirements for ballast water management are contained in regulation B-3 Ballast Water Management for Ships:

- Ships constructed before 2009 with a ballast water capacity of between 1500 and 5000 cubic metres must conduct ballast water management that at least meets the ballast water exchange standards or the ballast water performance standards until 2014, after which time it shall at least meet the ballast water performance standard.
- Ships constructed before 2009 with a ballast water capacity of less than 1500 or greater than 5000 cubic metres must conduct ballast water management that at least meets the ballast water exchange standards or the ballast water performance standards until 2016, after which time it shall at least meet the ballast water performance standard.
- Ships constructed in or after 2009 with a ballast water capacity of less than 5000 cubic metres must conduct ballast water management that at least meets the ballast water performance standard.
- Ships constructed in or after 2009 but before 2012, with a ballast water capacity of 5000 cubic metres or more shall conduct ballast water management that at least meets the standard described in regulation D-1 or D-2 until 2016 and at least the ballast water performance standard after 2016.
- Ships constructed in or after 2012, with a ballast water capacity of 5000 cubic metres or more shall conduct ballast water management that at least meets the ballast water performance standard.

Other methods of ballast water management may also be accepted as alternatives to the ballast water exchange standard and ballast water performance standard, provided that such methods ensure at least the same level of protection to the environment, human health, property or resources, and are approved in principle by IMO's Marine Environment Protection Committee (MEPC).

Under Regulation B-4 Ballast Water Exchange, all ships using ballast water exchange should:

- whenever possible, conduct ballast water exchange at least 200 nautical miles from the nearest land and in water at least 200 metres in depth, taking into account Guidelines developed by IMO;
- in cases where the ship is unable to conduct ballast water exchange as above, this should be as far from the nearest land as possible, and in all cases at least 50 nautical miles from the nearest land and in water at least 200 metres in depth.

When these requirements cannot be met areas may be designated where ships can conduct ballast water exchange. All ships shall remove and dispose of sediments from spaces...
designated to carry ballast water in accordance with the provisions of the ships' ballast water management plan (Regulation B-4).

Annex - Section C Additional measures
A Party, individually or jointly with other Parties, may impose on ships additional measures to prevent, reduce, or eliminate the transfer of Harmful Aquatic Organisms and Pathogens through ships' Ballast Water and Sediments.
In these cases, the Party or Parties should consult with adjoining or nearby States that may be affected by such standards or requirements and should communicate their intention to establish additional measure(s) to the Organization at least 6 months, except in emergency or epidemic situations, prior to the projected date of implementation of the measure(s). When appropriate, Parties will have to obtain the approval of IMO.

Annex - Section D Standards for Ballast Water Management

There is a ballast water exchange standard and a ballast water performance standard. Ballast water exchange could be used to meet the performance standard:

Regulation D-1 Ballast Water Exchange Standard - Ships performing Ballast Water exchange shall do so with an efficiency of 95 per cent volumetric exchange of Ballast Water. For ships exchanging ballast water by the pumping-through method, pumping through three times the volume of each ballast water tank shall be considered to meet the standard described. Pumping through less than three times the volume may be accepted provided the ship can demonstrate that at least 95 percent volumetric exchange is met.

Regulation D-2 Ballast Water Performance Standard - Ships conducting ballast water management shall discharge less than 10 viable organisms per cubic metre greater than or equal to 50 micrometres in minimum dimension and less than 10 viable organisms per milliliter less than 50 micrometres in minimum dimension and greater than or equal to 10 micrometres in minimum dimension; and discharge of the indicator microbes shall not exceed the specified concentrations.
The indicator microbes, as a human health standard, include, but are not be limited to:
a. Toxicogenic Vibrio cholerae (O1 and O139) with less than 1 colony forming unit (cfu) per 100 milliliters or less than 1 cfu per 1 gram (wet weight) zooplankton samples;
b. Escherichia coli less than 250 cfu per 100 milliliters;
c. Intestinal Enterococci less than 100 cfu per 100 milliliters.

Ballast Water Management systems must be approved by the Administration in accordance with IMO Guidelines (Regulation D-3 Approval requirements for Ballast Water Management systems). These include systems which make use of chemicals or biocides; make use of organisms or biological mechanisms; or which alter the chemical or physical characteristics of the Ballast Water.

Prototype technologies
Regulation D-4 covers Prototype Ballast Water Treatment Technologies. It allows for ships participating in a programme approved by the Administration to test and evaluate promising Ballast Water treatment technologies to have a leeway of five years before having to comply with the requirements.

Review of standards
Under regulation D-5 Review of Standards by the Organization, IMO is required to review the Ballast Water Performance Standard, taking into account a number of criteria including safety considerations; environmental acceptability, i.e., not causing more or greater environmental impacts than it solves; practicability, i.e., compatibility with ship design and operations; cost effectiveness; and biological effectiveness in terms of removing, or otherwise rendering inactive harmful aquatic organisms and pathogens in ballast water. The review should include a determination of whether appropriate technologies are available to achieve the standard, an assessment of the above mentioned criteria, and an assessment of the socio-economic effect(s) specifically in relation to the developmental needs of developing countries, particularly small island developing States.
Annex - Section E Survey and Certification Requirements for Ballast Water Management
Gives requirements for initial renewal, annual, intermediate and renewal surveys and certification requirements. Appendices give form of Ballast Water Management Certificate and Form of Ballast Water Record Book.

Resolutions adopted by the Conference
The Conference also adopted four resolutions:
- Conference resolution 1: Future work by the Organization pertaining to the International Convention for the Control and Management of Ships' Ballast Water and Sediments
- Conference resolution 2: The use of decision-making tools when reviewing the standards pursuant to Regulation D-5
- Conference resolution 3: Promotion of technical co-operation and assistance
- Conference resolution 4: Review of the Annex to the International Convention for the Control and Management of Ships' Ballast Water and Sediments

Background
The problem of invasive species is largely due to the expanded trade and traffic volume over the last few decades. The effects in many areas of the world have been devastating. Quantitative data show the rate of bio-invasions is continuing to increase at an alarming rate, in many cases exponentially, and new areas are being invaded all the time. Volumes of seaborne trade continue overall to increase and the problem may not yet have reached its peak. Specific examples include the introduction of the European zebra mussel (Dreissena polymorpha) in the Great Lakes between Canada and the United States, resulting in expenses of billions of dollars for pollution control and cleaning of fouled underwater structures and waterpipes; and the introduction of the American comb jelly (Mnemiopsis leidyi) to the Black and Azov Seas, causing the near extinction of anchovy and sprat fisheries.

The problem of harmful aquatic organisms in ballast water was first raised at IMO in 1988 and since then IMO's Marine Environment Protection Committee (MEPC), together with the Maritime Safety Committee (MSC) and technical sub-committees, have been dealing with the issue, focusing in the past decade first on guidelines and then on developing the new convention. Going further into history, scientists first recognized the signs of an alien species introduction after a mass occurrence of the Asian phytoplankton algae Odontella (Biddulphia sinensis) in the North Sea in 1903.

But it was not until the 1970s that the scientific community began reviewing the problem in detail. In the late 1980s, Canada and Australia were among countries experiencing particular problems with unwanted species, and they brought their concerns to the attention of IMO's Marine Environment Protection Committee (MEPC).

In 1991 the MEPC adopted MEPC resolution 50(31) - Guidelines for Preventing the Introduction of Unwanted Organisms and Pathogens from Ships' Ballast Water and Sediment Discharges; while the United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro in 1992, recognized the issue as a major international concern.

In November 1993, the IMO Assembly adopted resolution A.774(18) - Guidelines for Preventing the Introduction of Unwanted Organisms and Pathogens from Ships' Ballast Water and Sediment Discharges, based on the Guidelines adopted in 1991. The resolution requested the MEPC and the MSC to keep the Guidelines under review with a view to developing internationally applicable, legally-binding provisions.

The 20th Assembly of IMO in November 1997 adopted resolution A.868(20) - Guidelines for the control and management of ships' ballast water to minimize the transfer of harmful aquatic organisms and pathogens.
The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009

Adoption: 11 May 2009

Entry into force:
The Convention shall be open for signature by any State at the Headquarters of the Organization from 1 September 2009 to 31 August 2010 and shall thereafter remain open for accession by any State. It will enter into force 24 months after the date on which 15 States, representing 40 per cent of world merchant shipping by gross tonnage, have either signed it without reservation as to ratification, acceptance or approval or have deposited instruments of ratification, acceptance, approval or accession with the Secretary General.

Furthermore, the combined maximum annual ship recycling volume of those States must, during the preceding 10 years, constitute not less than 3 per cent of their combined merchant shipping tonnage.

The Convention is aimed at ensuring that ships, when being recycled after reaching the end of their operational lives, do not pose any unnecessary risk to human health and safety or to the environment.

The Convention was adopted at a diplomatic conference held in Hong Kong, China, from 11 to 15 May 2009.

The new Convention intends to address all the issues around ship recycling, including the fact that ships sold for scrapping may contain environmentally hazardous substances such as asbestos, heavy metals, hydrocarbons, ozone-depleting substances and others. It will address concerns raised about the working and environmental conditions at many of the world's ship recycling locations.

The text of the ship recycling Convention has been developed over the past three years, with input from IMO Member States and relevant non-governmental organizations, and in cooperation with the International Labour Organization and the Parties to the Basel Convention.

Regulations in the new Convention cover: the design, construction, operation and preparation of ships so as to facilitate safe and environmentally sound recycling, without compromising the safety and operational efficiency of ships; the operation of ship recycling facilities in a safe and environmentally sound manner; and the establishment of an appropriate enforcement mechanism for ship recycling, incorporating certification and reporting requirements.

Ships to be sent for recycling will be required to carry an inventory of hazardous materials, which will be specific to each ship. An appendix to the Convention will provide a list of hazardous materials the installation or use of which is prohibited or restricted in shipyards, ship repair yards, and ships of Parties to the Convention. Ships will be required to have an initial survey to verify the inventory of hazardous materials, additional surveys during the life of the ship, and a final survey prior to recycling.

Ship recycling yards will be required to provide a "Ship Recycling Plan", to specify the manner in which each ship will be recycled, depending on its particulars and its inventory. Parties will be required to take effective measures to ensure that ship recycling facilities under their jurisdiction comply with the Convention.

A series of guidelines are being developed to assist in the Convention's implementation.

Entry into force criteria
The Convention shall be open for signature by any State at the Headquarters of the Organization from 1 September 2009 to 31 August 2010 and shall thereafter remain open for accession by any State. It will enter into force 24 months after the date on which 15 States, representing 40 per cent of world merchant shipping by gross tonnage, have either signed it.
without reservation as to ratification, acceptance or approval or have deposited instruments of ratification, acceptance, approval or accession with the Secretary General.

Furthermore, the combined maximum annual ship recycling volume of those States must, during the preceding 10 years, constitute not less than 3 per cent of their combined merchant shipping tonnage.

**Resolutions adopted by the conference**
The conference also adopted six resolutions as follows:

*Resolution 1:* Expression of appreciation to the host Government;

*Resolution 2:* Contribution of the Parties to the Basel Convention and the International Labour Organization in the development of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009;

*Resolution 3:* Promotion of technical co-operation and assistance;

*Resolution 4:* Future work by the Organization pertaining to the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009;

*Resolution 5:* Early implementation of the technical standards of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009; and

*Resolution 6:* Exploration and monitoring of the best practices for fulfilling the requirements of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009.
Liability and Compensation

International Convention on Civil Liability for Oil Pollution Damage, 1969

Adoption: 29 November 1969  
Entry into force: 19 June 1975  
Note: The 1969 Convention is being replaced by its 1992 Protocol

The Civil Liability Convention (CLC) was adopted to ensure that adequate compensation is available to persons who suffer oil pollution damage resulting from maritime casualties involving oil-carrying ships.

The Convention places the liability for such damage on the owner of the ship from which the polluting oil escaped or was discharged.

Subject to a number of specific exceptions, this liability is strict; it is the duty of the owner to prove in each case that any of the exceptions should in fact operate. However, except where the owner has been guilty of actual fault, they may limit liability in respect of any one incident.

The Convention requires ships covered by it to maintain insurance or other financial security in sums equivalent to the owner's total liability for one incident.

The Convention applies to all seagoing vessels actually carrying oil in bulk as cargo, but only ships carrying more than 2,000 tons of oil are required to maintain insurance in respect of oil pollution damage.

This does not apply to warships or other vessels owned or operated by a State and used for the time being for Government non-commercial service. The Convention, however, applies in respect of the liability and jurisdiction provisions, to ships owned by a State and used for commercial purposes. The only exception as regards such ships is that they are not required to carry insurance. Instead they must carry a certificate issued by the appropriate authority of the State of their registry stating that the ship's liability under the Convention is covered.

The Convention covers pollution damage resulting from spills of persistent oils suffered in the territory (including the territorial sea) of a State Party to the Convention. It is applicable to ships which actually carry oil in bulk as cargo, i.e. generally laden tankers. Spills from tankers in ballast or bunker spills from ships other than tankers are not covered, nor is it possible to recover costs when preventive measures are so successful that no actual spill occurs. The shipowner cannot limit liability if the incident occurred as a result of the owner's personal fault.

The Protocol of 1976
Adoption: 9 November 1976  
Entry into force: 8 April 1981

The 1969 Civil Liability Convention used the "Poincaré franc", based on the "official" value of gold, as the applicable unit of account. The 1976 Protocol therefore provided for provides for a new unit of account, based on the Special Drawing Rights (SDR) as used by the International Monetary Fund (IMF).

The Protocol of 1984
Adoption: 25 May 1984  
Entry into force: 12 months after being accepted by 10 States, including six with tanker fleets of at least 1 million gross tons.  

While the compensation system established by the 1969 CLC and 1971 Fund Convention had proved very useful, by the mid-1980s it was generally agreed that the limits of liability were too low to provide adequate compensation in the event of a major pollution incident.

The 1984 Protocol set increased limits of liability, but it gradually became clear that the Protocol would never secure the acceptance required for entry into force and it was superseded by the 1992 version (see below).

A major factor in the 1984 Protocol not entering into force was the reluctance of the United States, a major oil importer, to accept the Protocol. The United States preferred a system of unlimited liability, introduced in its Oil Pollution Act of 1990. As a result, the 1992 Protocol was
drawn up in such a way that the ratification of the United States was not needed in order to secure entry into force conditions.

The Protocol of 1992  
**Adoption:** 27 November 1992  
**Entry into force:** 30 May 1996

The Protocol changed the entry into force requirements by reducing from six to four the number of large tanker-owning countries that are needed. The compensation limits are those originally agreed in 1984:

- For a ship not exceeding 5,000 gross tonnage, liability is limited to 3 million SDR (about US$3.8 million)
- For a ship 5,000 to 140,000 gross tonnage: liability is limited to 3 million SDR plus 420 SDR (about US$538) for each additional unit of tonnage
- For a ship over 140,000 gross tonnage: liability is limited to 59.7 million SDR (about US$76.5 million)

The 1992 protocol also widened the scope of the Convention to cover pollution damage caused in the exclusive economic zone (EEZ) or equivalent area of a State Party. The Protocol covers pollution damage as before but environmental damage compensation is limited to costs incurred for reasonable measures to reinstate the contaminated environment. It also allows expenses incurred for preventive measures to be recovered even when no spill of oil occurs, provided there was grave and imminent threat of pollution damage.

The Protocol also extended the Convention to cover spills from sea-going vessels constructed or adapted to carry oil in bulk as cargo so that it applies apply to both laden and unladen tankers, including spills of bunker oil from such ships.

Under the 1992 Protocol, a shipowner cannot limit liability if it is proved that the pollution damage resulted from the shipowner's personal act or omission, committed with the intent to cause such damage, or recklessly and with knowledge that such damage would probably result.

The 2000 Amendments  
**Adoption:** 18 October 2000  
**Entry into force:** 1 November 2003

The amendments raised the compensation limits by 50 percent compared to the limits set in the 1992 Protocol, as follows:

- For a ship not exceeding 5,000 gross tonnage, liability is limited to 4.51 million SDR (US$5.78 million)  
  *(Under the 1992 Protocol, the limit was 3 million SDR (US$3.8 million))*
- For a ship 5,000 to 140,000 gross tonnage: liability is limited to 4.51 million SDR (US$5.78 million) plus 631 SDR (US$807) for each additional gross tonne over 5,000  
  *(Under the 1992 Protocol, the limit was 3 million SDR (US$3.8 million) plus 420 SDR (US$537.6) for each additional gross tonne)*
- For a ship over 140,000 gross tonnage: liability is limited to 89.77 million SDR (US$115 million)  
  *(Under the 1992 Protocol, the limit was 59.7 million SDR (US$76.5 million)*
International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971

Adoption: 18 December 1971
Entry into force: 16 October 1978

Although the 1969 Civil Liability Convention provided a useful mechanism for ensuring the payment of compensation for oil pollution damage, it did not deal satisfactorily with all the legal, financial and other questions raised during the Conference adopting the CLC Convention.

Some States objected to the regime established, since it was based on the strict liability of the shipowner for damage which they could not foresee and, therefore, represented a dramatic departure from traditional maritime law which based liability on fault. On the other hand, some States felt that the limitation figures adopted were likely to be inadequate in cases of oil pollution damage involving large tankers. They therefore wanted an unlimited level of compensation or a very high limitation figure.

In the light of these reservations, the 1969 Brussels Conference considered a compromise proposal to establish an international fund, to be subscribed to by the cargo interests, which would be available for the dual purpose of, on the one hand, relieving the shipowner of the burden by the requirements of the new convention and, on the other hand, providing additional compensation to the victims of pollution damage in cases where compensation under the 1969 Civil Liability Convention was either inadequate or unobtainable.

The Conference recommended that IMO should prepare such a scheme. The Legal Committee accordingly prepared draft articles and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage was adopted at a Conference held in Brussels in 1971. It is supplementary to the 1969 Civil Liability Convention.

The purposes of the Fund Convention are:

- To provide compensation for pollution damage to the extent that the protection afforded by the 1969 Civil Liability Convention is inadequate.
- To give relief to shipowners in respect of the additional financial burden imposed on them by the 1969 Civil Liability Convention, such relief being subject to conditions designed to ensure compliance with safety at sea and other conventions.
- To give effect to the related purposes set out in the Convention.

With the exception of a few cases, the Fund is obliged to pay compensation to the victims of oil pollution damage who are unable to obtain adequate or any compensation from the shipowner or his guarantor under the 1969 Convention.

The Fund's obligation to pay compensation is confined to pollution damage suffered in the territories including the territorial sea of Contracting States. The Fund is also obliged to pay compensation in respect of measures taken by a Contracting State outside its territory.

The Fund can also provide assistance to Contracting States which are threatened or affected by pollution and wish to take measures against it. This may take the form of personnel, material, credit facilities or other aid.

In connection with its second main function, the Fund is obliged to indemnify the shipowner or his insurer for a portion of the shipowner's liability under the Liability Convention. This portion is equivalent to 100 SDR (about US$128) per ton or 8.3 million SDR (about US$10.6 million), whichever is the lesser.

The Fund is not obliged to indemnify the owner if damage is caused by his wilful misconduct or if the accident was caused, even partially, because the ship did not comply with certain international conventions.
The Convention contains provisions on the procedure for claims, rights and obligations, and
jurisdiction.

Contributions to the Fund should be made by all persons who receive oil by sea in Contracting
States. The Fund's Organization consists of an Assembly of States, a Secretariat headed by a
director appointed by the Assembly; and an Executive Committee.

The Protocol of 1976
Adoption: 19 November 1976
Entry into force: 22 November 1994

The 1971 Fund Convention applied the same unit of account as the 1969 Civil Liability
Convention, i.e. the "Poincaré franc". For similar reasons the Protocol provides for a unit of
account, based on the Special Drawing Right (SDR) as used by the International Monetary Fund
(IMF).

The Protocol of 1984
Adoption: 25 May 1984
Entry into force: 12 months after being accepted by at least 8 States whose combined total of
contributing oil amounted to at least 600 million tons during the previous calendar year.
Status: Superseded by the Protocol of 1992

The Protocol was primarily intended to raise the limits of liability contained in the convention and
thereby enable greater compensation to be paid to victims of oil pollution incidents.

But as with the 1984 CLC Protocol, it became clear that the Protocol would never secure the
acceptances required for entry into force and it has been superseded by the 1992 version (see
below).

The Protocol of 1992
Adoption: 27 November 1992
Entry into force: 30 May 1996

As was the case with the 1992 Protocol to the CLC Convention, the main purpose of the
Protocol was to modify the entry into force requirements and increase compensation amounts.
The scope of coverage was extended in line with the 1992 CLC Protocol.

The 1992 Protocol established a separate, 1992 International Oil Pollution Compensation Fund,
known as the 1992 Fund, which is managed in London by a Secretariat, as with the 1971 Fund.
In practice, the Director of the 1971 Fund is currently also the Director of the 1992 Fund.
Under the 1992 Protocol, the maximum amount of compensation payable from the Fund for a
single incident, including the limit established under the 1992 CLC Protocol, is 135 million SDR
(about US$173 million). However, if three States contributing to the Fund receive more than 600
million tonnes of oil per annum, the maximum amount is raised to 200 million SDR (about
US$256 million).

From 16 May 1998, Parties to the 1992 Protocol ceased to be Parties to the 1971 Fund
Convention due to a mechanism for compulsory denunciation of the "old" regime established in
the 1992 Protocol.

The 2000 Amendments
Adoption: 18 October 2000
Entry into force: 1 November 2003

The amendments raise the maximum amount of compensation payable from the IOPC Fund for
a single incident, including the limit established under the 2000 CLC amendments, to 203 million
SDR (US$260 million), up from 135 million SDR (US$173 million). However, if three States
contributing to the Fund receive more than 600 million tonnes of oil per annum, the maximum
amount is raised to 300,740,000 SDR (US$386 million), up from 200 million SDR (US$256
million).
The 2003 Protocol (supplementary fund)

Adoption: 16 May 2003

Entry into force: Three months after at least eight States have ratified the Protocol, who have received a combined total of 450 million tons of contributing oil.

The 2003 Protocol establishing an International Oil Pollution Compensation Supplementary Fund was adopted by a diplomatic conference held at IMO Headquarters in London. The aim of the established Fund is to supplement the compensation available under the 1992 Civil Liability and Fund Conventions with an additional, third tier of compensation. The Protocol is optional and participation is open to all States Parties to the 1992 Fund Convention. The total amount of compensation payable for any one incident will be limited to a combined total of 750 million Special Drawing Rights (SDR) (just over US$1,000 million) including the amount of compensation paid under the existing CLC/Fund Convention.

Application of Protocol

The supplementary fund will apply to damage in the territory, including the territorial sea, of a Contracting State and in the exclusive economic zone of a Contracting State.

Contributions to the supplementary fund

Annual contributions to the Fund will be made in respect of each Contracting State by any person who, in any calendar year, has received total quantities of oil exceeding 150,000 tons. However, for the purposes of the Protocol, there is a minimum aggregate receipt of 1,000,000 tons of contributing oil in each Contracting State.

Assessment of annual contributions

The Assembly of the Supplementary Fund will assess the level of contributions based on estimates of expenditure (including administrative costs and payments to be made under the Fund as a result of claims) and income (including surplus funds from previous years, annual contributions and any other income).

Amendments to the limits

Amendments to the compensation limits established under the Protocol can be adopted by a tacit acceptance procedure, so that an amendment adopted in the Legal Committee of IMO by a two-thirds majority of Contracting States present and voting, can enter into force 24 months after its adoption.

Resolutions adopted by the Conference

The Conference adopted three resolutions:

Conference resolution 1: Financing of the International Conference to adopt a Protocol to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1992 - acknowledges that the funding of the International Conference was made available on the understanding that the amount paid to IMO for convening and holding the Conference would be reimbursed, with interest, by the Supplementary Fund to the 1992 Fund, and urges the Contracting States to the Protocol, when it has entered into force, to ensure that the amount paid to IMO is reimbursed by the Supplementary Fund, with interest, to the 1992 Fund.

Conference resolution 2: Establishment of the International Supplementary Fund for Compensation for Oil Pollution Damage - requests the Assembly of the International Oil Pollution Compensation Fund, 1992 (1992 Fund), to authorise and instruct the Director of the 1992 Fund to take on administrative and other functions relating to the setting up of the supplementary Fund; recommends the two Funds to share a single Secretariat and Director; and recommends meetings on 1992 Fund and supplementary Fund to be held simultaneously and in the same place.

Conference resolution 3: Review of the international compensation regime for oil pollution damage for possible improvement - requests the 1992 Fund Assembly to consider enhancements that could be made to the 1992 Liability Convention and the 1992 Fund
Convention; urges all Contracting States to the Conventions to place a high priority on ongoing work towards a comprehensive review of the Conventions; and requests IMO to take action as necessary based on the outcome of the deliberations of the 1992 Fund Assembly.

The IOPC funds and IMO
Although the 1971 and 1992 Funds were established under Conventions adopted under the auspices of IMO, they are completely independent legal entities. Unlike IMO, the IOPC Funds are not United Nations (UN) agencies and are not part of the UN system. They are intergovernmental organisations outside the UN, but follow procedures which are similar to those of the UN.

Only States can become Members of the IOPC Funds. States should consider becoming Members of the 1992 Fund, but not of the 1971 Fund which will be wound up in the near future. To become a member of the Fund, a State must accede to the 1992 Civil Liability Convention and to the 1992 Fund Convention by depositing a formal instrument of accession with the Secretary-General of IMO. These Conventions should be incorporated into the national law of the State concerned.

See the IOPC Funds website at http://www.iopcfund.org/

Winding up of 1971 fund
Due to denunciations of the 1971 Fund Convention, this Convention ceased to be in force on 24 May 2002.
Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material, 1971

Adoption: 17 December 1971
Entry into force: 15 July 1975

In 1971 IMO, in association with the International Atomic Energy Agency (IAEA) and the European Nuclear Energy Agency of the Organization for Economic Co-operation and Development (OECD), convened a Conference which adopted a Convention to regulate liability in respect of damage arising from the maritime carriage of nuclear substances.

The purpose of this Convention is to resolve difficulties and conflicts which arise from the simultaneous application to nuclear damage of certain maritime conventions dealing with shipowners' liability, as well as other conventions which place liability arising from nuclear incidents on the operators of the nuclear installations from which or to which the material in question was being transported.

The 1971 Convention provides that a person otherwise liable for damage caused in a nuclear incident shall be exonerated for liability if the operator of the nuclear installation is also liable for such damage by virtue of the Paris Convention of 29 July 1960 on Third Party Liability in the Field of Nuclear Energy; or the Vienna Convention of 21 May 1963 on Civil Liability for Nuclear Damage; or national law which is similar in the scope of protection given to the persons who suffer damage.
Athens Convention relating to the Carriage of Passengers and their Luggage by Sea, 1974

Adoption: 13 December 1974  
Entry into force: 28 April 1987


The Convention is designed to consolidate and harmonize two earlier Brussels conventions dealing with passengers and luggage and adopted in 1961 and 1967 respectively.

The Convention establishes a regime of liability for damage suffered by passengers carried on a seagoing vessel. It declares a carrier liable for damage or loss suffered by a passenger if the incident causing the damage occurred in the course of the carriage and was due to the fault or neglect of the carrier.

However, unless the carrier acted with intent to cause such damage, or recklessly and with knowledge that such damage would probably result, he can limit his liability. For the death of, or personal injury to, a passenger, this limit of liability is set at 46,666 Special Drawing Rights (SDR) (about US$59,700) per carriage.

As far as loss of or damage to luggage is concerned, the carrier's limit of liability varies, depending on whether the loss or damage occurred in respect of cabin luggage, of a vehicle and/or luggage carried in or on it, or in respect of other luggage.

Protocol [of 1976] to the Athens Convention relating to the Carriage of Passengers and their Luggage by Sea, 1974

Adoption: 19 November 1976  
Entry into force: 30 April 1989

The Athens Convention used the "Poincaré franc", based on the "official" value of gold, as the applicable unit of account.

A Protocol to the Convention, makes the unit of account the Special Drawing Right (SDR).

The 1990 Protocol

Adoption: 29 March 1990  
Entry into force: 90 days after being accepted by 10 States  
Status: 4 (of 5: Tonga) acceptances have been received.

The main aim of the Protocol is to raise the amount of compensation available in the event of deaths or injury at 175,000 SDR (around US$224,000). Other limits are 1,800 SDR (about US$2,300) for loss of or damage to cabin luggage and 10,000 SDR (about US$12,800) for loss of or damage to vehicles.

The Protocol also makes provision for the "tacit acceptance" procedure to be used to amend the limitation amounts in the future.

Protocol of 2002 to the Athens Convention relating to the Carriage of Passengers and their Luggage by Sea, 1974

Adopted: 1 November 2002

Entry into force: Ratifications, acceptance etc., by 10 States
Status: Number of Signatories: 6  
Number of Contracting States: Nil

The Protocol introduces compulsory insurance to cover passengers on ships and raises the limits of liability. It also introduces other mechanisms to assist passengers in obtaining compensation, based on well-accepted principles applied in existing liability and compensation regimes dealing with environmental pollution. These include replacing the fault-based liability
system with a strict liability system for shipping related incidents, backed by the requirement that the carrier take out compulsory insurance to cover these potential claims. The limits contained in the Protocol set a maximum limit, empowering - but not obliging - national courts to compensate for death, injury or damage up to these limits. The Protocol also includes an "opt-out" clause, enabling State Parties to retain or introduce higher limits of liability (or unlimited liability) in the case of carriers who are subject to the jurisdiction of their courts.

Compulsory insurance
A new Article 4bis of the Convention requires carriers to maintain insurance or other financial security, such as the guarantee of a bank or similar financial institution, to cover the limits for strict liability under the Convention in respect of the death of and personal injury to passengers. The limit of the compulsory insurance or other financial security shall not be less than 250,000 Special Drawing Rights (SDR) (about US$325,000) per passenger on each distinct occasion. Ships are to be issued with a certificate attesting that insurance or other financial security is in force and a model certificate is attached to the Protocol in an Annex.

Limits of liability
The limits of liability have been raised significantly under the Protocol, to reflect present day conditions and the mechanism for raising limits in the future has been made easier. The liability of the carrier for the death of or personal injury to a passenger is limited to 250,000 SDR (about US$325,000) per passenger on each distinct occasion.

The carrier is liable, unless the carrier proves that the incident resulted from an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character; or was wholly caused by an act or omission done with the intent to cause the incident by a third party.

If the loss exceeds the limit, the carrier is further liable - up to a limit of 400,000 SDR (about US$524,000) per passenger on each distinct occasion - unless the carrier proves that the incident which caused the loss occurred without the fault or neglect of the carrier. For the loss suffered as a result of the death of or personal injury to a passenger not caused by a shipping incident, the carrier is liable if the incident which caused the loss was due to the fault or neglect of the carrier. The burden of proving fault or neglect lies with the claimant. The liability of the carrier only includes loss arising from incidents that occurred in the course of the carriage. The burden of proving that the incident which caused the loss occurred in the course of the carriage, and the extent of the loss, lies with the claimant.

"Opt-out" Clause
The Protocol allows a State Party to regulate by specific provisions of national law the limit of liability for personal injury and death, provided that the national limit of liability, if any, is not lower than that prescribed in the Protocol. A State Party, which makes use of this option is obliged to inform the IMO Secretary-General of the limit of liability adopted or of the fact that there is none.

Loss of or damage to luggage and vehicles - The liability of the carrier for the loss of or damage to cabin luggage is limited to 2,250 SDR (about US$2,925) per passenger, per carriage. - liability of the carrier for the loss of or damage to vehicles including all luggage carried in or on the vehicle is limited to 12,700 SDR (about US$16,250) per vehicle, per carriage. - liability of the carrier for the loss of or damage to other luggage is limited to 3,375 SDR (about US$4,390) per passenger, per carriage. - The carrier and the passenger may agree that the liability of the carrier shall be subject to a deductible not exceeding 330 SDR in the case of damage to a vehicle and not exceeding 149 (about US$220) SDR per passenger in the case of loss of or damage to other luggage, such sum to be deducted from the loss or damage.

Amendment of limits
The Protocol introduces a new procedure for amending the limits of liability under the Convention, so that any future raises in limits can be achieved more readily. Under the 1974
Convention, limits can only be raised by adopting amendments to the Convention which require a specified number of States' acceptances to bring the amendments into force. This has meant, for example, that the 1990 Protocol, which was intended to raise the limits, has not yet entered into force and indeed is being superseded by the 2002 Protocol.

The 2002 Protocol therefore introduces a tacit acceptance procedure for raising the limits of liability. A proposal to amend the limits, as requested by at least one-half of the Parties to the Protocol, would be circulated to all IMO Member States and all States Parties and would then be discussed in the IMO Legal Committee. Amendments would be adopted by a two-thirds majority of the States Parties to the Convention as amended by the Protocol present and voting in the Legal Committee, and amendments would enter into force 18 months after its deemed acceptance date. The deemed acceptance date would be 18 months after adoption, unless within that period not less than one fourth of the States that were States Parties at the time of the adoption of the amendment have communicated to the IMO Secretary-General that they do not accept the amendment.

Regional Economic Integration Organizations
For the first time in an IMO Convention, a regional economic integration organization may sign up to the Protocol. An article in the Protocol states that a Regional Economic Integration Organization, which is constituted by sovereign States that have transferred competence over certain matters governed by this Protocol to that Organization, may sign, ratify, accept, approve or accede to the Protocol. A Regional Economic Integration Organization which is a Party to this Protocol shall have the rights and obligations of a State Party, to the extent that the Regional Economic Integration Organization has competence over matters governed by this Protocol.

Title of Convention
The Protocol states that Articles 1 to 22 of the Convention, as revised by the Protocol, together with Articles 17 to 25 of the Protocol and the Annex thereto, shall constitute and be called the Athens Convention relating to the Carriage of Passengers and their Luggage by Sea, 2002. States who ratify the 2002 Protocol are required to denounce the 1974 Convention and its 1976 and 1990 Protocols, if they are Party to the 1974 Convention and those Protocols.

Conference Resolutions
The Conference which adopted the 2002 Protocol also adopted the following resolutions:

Conference Resolution 1 - Regional Economic Integration Organizations
The resolution notes that the 2002 Protocol to the Athens Convention allows Regional Economic Integration Organizations and their sovereign Member States to become parties to the Protocol and recognizes that States may, in the future, establish or become Members to various forms of regional economic integration organizations to which they may opt to transfer competencies or functions governed by treaties and exercise these in a shared manner. The resolution requests IMO to carry out a study of the issue, and, if found necessary, to develop appropriate provisions which may be considered in new treaties it may develop, or in amendments to existing treaties, when there will be a need for such provisions to be included so as to enable present and future regional economic integration organizations and their Member States to become parties to such treaties.

Conference Resolution 2 - Certificates of insurance or other financial security and ships flying the flag of a State under the terms of a bareboat charter registration
The resolution addresses the fact that a number of States allow ships to fly their flag under the terms of bareboat charter, through which the bareboat charterer assumes all the duties and responsibilities of the owner for the operation of the ship whilst the ownership and encumbrances remain registered in another State which suspends the right of the ship to fly its flag. The resolution requests IMO to carry out a study of the issuing of certificates of insurance or financial security in these cases and, if found necessary, to develop appropriate guidelines.

Conference Resolution 3 - Framework of Good Practice with respect to carriers' Liabilities
The resolution requests IMO to develop appropriate guidelines on the provision of insurance or
financial security for compensation for claims for death of or personal injury to passengers which will establish an appropriate framework of good practice to ensure that all carriers take steps to maintain full insurance or financial security to meet their full level of liability provided for in the Protocol.

**Special Drawing Rights**
The daily conversion rates for Special Drawing Rights (SDRs) can be found on the International Monetary Fund website at [www.imf.org](http://www.imf.org)
Convention on Limitation of Liability for Maritime Claims, 1976

Adoption: 19 November 1976
Entry into force: 1 December 1986

The Convention replaces the International Convention Relating to the Limitation of the Liability of Owners of Seagoing Ships, which was signed in Brussels in 1957, and came into force in 1968. If a State is Party has however not denounced the Brussels Convention, the applicable law should be found according to Article 30 of the Vienna Convention on the Law of Treaties.

Under the 1976 Convention, the limit of liability for claims covered is raised considerably, in some cases up to 250-300 per cent. Limits are specified for two types of claims - claims for loss of life or personal injury, and property claims (such as damage to other ships, property or harbour works).

In the Convention, the limitation amounts are expressed in terms of units of account. Each unit of account is equivalent in value to the Special Drawing Right (SDR) as defined by the International Monetary Fund (IMF), although States which are not members of the IMF and whose law does not allow the use of SDR may continue to use the old gold franc (referred to as "monetary unit" in the Convention).

With regard to personal claims, liability for ships not exceeding 500 tons is limited to 330,000 SDR (equivalent to around US$422,000). For larger vessels the following additional amounts are used in calculating claims:
- For each ton from 501 to 3,000 tons, 500 SDR (about US$640)
- For each ton from 3,001 to 30,000 tons, 333 SDR (US$426)
- For each ton from 30,001 to 70,000 tons, 250 SDR (US$320)
- For each ton in excess of 70,000 tons, 167 SDR (US$214)

For other claims, the limit of liability is fixed at 167,000 (US$214,000) for ships not exceeding 500 tons. For larger ships the additional amounts will be:
- For each ton from 501 to 30,000 tons, 167 (US$214).
- For each ton from 30,001 to 70,000 tons, 125 SDR (US$160)
- For each ton in excess of 70,000 tons, 83 SDR (US$106)

The Convention provides for a virtually unbreakable system of limiting liability. It declares that a person will not be able to limit liability only if "it is proved that the loss resulted from his personal act or omission, committed with the intent to cause such a loss, or recklessly and with knowledge that such loss would probably result".

Protocol of 1996
Adoption: 3 May 1996
Entry into force: 13 May 2004

The Protocol results in the amount of compensation payable in the event of an incident being substantially increased and also introduces a "tacit acceptance" procedure for updating these amounts.

For ships not exceeding 2,000 gt, liability is limited to 2 million SDR (US$2.56 million) for loss of life or personal injury and 1 million SDR (US$1.28 million) for other claims.

Liability then increases with tonnage to a maximum above 70,000 gt of 2 million SDR (US$2.56 million) + 400 SDR (US$512) per ton for loss of life or personal injury and 1 million SDR (US$1.28 million) + 200 SDR (US$256) per ton for other claims.
International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances (HNS) by Sea

Adoption: 3 May 1996
Entry into force: 18 months after the following conditions have been fulfilled:

- 12 States have accepted the Convention, four of which have not less than two million units of gross tonnage
- Provided that persons in these States who would be responsible to pay contributions to the general account have received a total quantity of at least 40 million tonnes of contributing cargo in the preceding calendar year.

Status: Number of Contracting States: 14

The Convention will make it possible for up to 250 million SDR (about US$320 million) to be paid out in compensation to victims of accidents involving HNS, such as chemicals. The HNS Convention is based on the two-tier system established under the CLC and Fund Conventions. However, it goes further in that it covers not only pollution damage but also the risks of fire and explosion, including loss of life or personal injury as well as loss of or damage to property.

HNS are defined by reference to lists of substances included in various IMO Conventions and Codes. These include oils; other liquid substances defined as noxious or dangerous; liquefied gases; liquid substances with a flashpoint not exceeding 60°C; dangerous, hazardous and harmful materials and substances carried in packaged form; and solid bulk materials defined as possessing chemical hazards. The Convention also covers residues left by the previous carriage of HNS, other than those carried in packaged form.

The Convention defines damage as including loss of life or personal injury; loss of or damage to property outside the ship; loss or damage by contamination of the environment; the costs of preventative measures and further loss or damage caused by them.

The Convention introduces strict liability for the shipowner and a system of compulsory insurance and insurance certificates.

The unit of account used in the Convention is the Special Drawing Right (SDR) of the International Monetary Fund (IMF).

For ships not exceeding 2,000 units of gross tonnage, the limit is set at 10 million SDR (about US$12.8 million). For ships above that tonnage, an additional 1,500 SDR is added for each unit of tonnage from 2001 to 50,000; and 360 SDR for each unit of tonnage in excess of 50,000 units of tonnage. The total possible amount the shipowner is liable for is limited to 100 million SDR (US$128 million).

States which are Parties to the Convention can decide not to apply it to ships of 200 gross tonnage and below, which carry HNS only in packaged form and are engaged on voyages between ports in the same State. Two neighbouring States can further agree to apply similar conditions to ships operating between ports in the two countries.

In order to ensure that shipowners engaged in the transport of HNS are able to meet their liabilities, the Convention makes insurance compulsory for them. A certificate of insurance must be carried on board and a copy kept by the authorities who keep record of the ship's registry.

It has generally been agreed that it would not be possible to provide sufficient cover by the shipowner liability alone for the damage that could be caused in connection with the carriage of HNS cargo. This liability, which creates a first tier of the convention, is therefore supplemented by the second tier, the HNS Fund, financed by cargo interests.

The Fund will become involved:

- because no liability for the damage arises for the shipowner. This could occur, for example, if the shipowner was not informed that a shipment contained HNS or if the accident resulted from an act of war.
• because the owner is financially incapable of meeting the obligations under this Convention in full and any financial security that may be provided does not cover or is insufficient to satisfy the claims for compensation for damage
• because the damage exceeds the owner's liability limits established in the Convention.

Contributions to the second tier will be levied on persons in the Contracting Parties who receive a certain minimum quantity of HNS cargo during a calendar year. The tier will consist of one general account and three separate accounts for oil, liquefied natural gas (LNG) and liquefied petroleum gas (LPG). The system with separate accounts has been seen as a way to avoid cross-subsidization between different HNS substances.

As with the CLC and Fund Conventions, when an incident occurs where compensation is payable under the HNS Convention, compensation would first be sought from the shipowner, up to the maximum limit of 100 million SDR (US$128 million).

Once this limit are reached, compensation would be paid from the second tier, the HNS Fund, up to a maximum of 250 million SDR (US$320 million) (including compensation paid under the first tier).

The Fund will have an Assembly consisting of all States which are Parties and a Secretariat headed by a Director. The Assembly will normally meet once a year.

**HNS and the CLC/Fund Conventions**

The HNS Convention excludes pollution damage as defined in the International Convention on Civil Liability for Oil Pollution Damage and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, to avoid an overlap with these Conventions. However, HNS covers other damage (including death or personal injury) as well as damage caused by fire and/or explosion when oils are carried.

**Special Drawing Rights Conversion Rates**

The daily conversion rates for Special Drawing Rights (SDRs) can be found on the International Monetary Fund website at [www.imf.org](http://www.imf.org) under "Fund Rates".

**2010 Conference to adopt Protocol to amend HNS Convention**

The Legal Committee of the International Maritime Organization (IMO), meeting for its 95th session at IMO Headquarters in London, approved a draft Protocol to the 1996 HNS Convention (the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea). A Conference to be held in April 2010 to adopt the Protocol

The draft Protocol is designed to address practical problems that have prevented many States from ratifying the original Convention which, despite being adopted in 1996, has, to date, only 13 ratifications and is some way from meeting the level of ratification that would trigger its entry into force.

The 1996 HNS Convention is based on the highly successful model of the Civil Liability and Fund Conventions. Like the regime introduced by the latter Convention, it seeks to establish a two-tier system for compensation to be paid in the event of accidents at sea, in this case involving hazardous and noxious substances, such as chemicals. Tier one will be covered by compulsory insurance taken out by shipowners, who would be able to limit their liability; in those cases where the insurance does not cover an incident, or is insufficient to satisfy the claim, compensation shall be paid from a fund, made up of contributions from the receivers of HNS. Contributions will be calculated according to the amount of HNS received in each State in the preceding calendar year.

However, among the obstacles that have discouraged ratification of the Convention, one of the most difficult to overcome has been the requirement for States to report the quantities of HNS received to IMO. This difficulty is due, in part, to the sheer range and diversity of hazardous and
noxious substances that will be governed by the HNS Convention. As the reports act, among other things, as a trigger mechanism for the entry into force of the Convention, the omission of States to file them has effectively prevented the Convention from becoming operative. The draft Protocol, which was developed initially by a focus group established by the 1992 IOPC Fund Assembly, is set to address this problem, as well as others thought to be acting as barriers to ratification of the Convention.

The IMO Legal Committee has now requested the IMO Council, which meets in June 2009, to approve the holding of a diplomatic conference as early as possible during 2010 to consider the draft Protocol, with a view to formally adopting it.

**Key issues**

It has been widely recognized that three issues have been instrumental in preventing States from ratifying the HNS Convention. The draft Protocol addresses each of them, as follows:

1. **Problem:** The difficulties in setting up the reporting system for packaged goods.

   **Solution:** Packaged goods have been excluded from the definition of contributing cargo and, accordingly, receivers of these goods will not be liable for contributions to the HNS Fund. However, since incidents involving packaged goods will remain eligible for compensation, the shipowners’ limits of liability for incidents involving packaged HNS will be increased. The precise level of increase will be set at the Diplomatic Conference.

2. **Problem:** Under the 1996 HNS Convention, the person liable for LNG contributions is the person who held title to an LNG cargo immediately prior to its discharge. In the case of other accounts, the person liable is the receiver. While the receiver must be subject to the jurisdiction of a State Party, the titleholder need not be. It would, therefore, have been impossible to enforce payment of contributions to the LNG account by titleholders in non-State Parties.

   **Solution:** Under the draft Protocol the receiver, as defined in Article 1.4 of the Convention, will be liable for annual contributions to the LNG account, except in the limited situation where the titleholder pays them, following an agreement to this effect with the receiver and the receiver has informed the State Party that such an agreement exists.

3. **Problem:** Despite an obligation to do so, very few States, when ratifying the HNS Convention, have submitted reports on contributing cargo. This omission has been a contributing factor to the Convention not entering into force. In addition, there has been a growing awareness of the desirability of preventing the invidious situation which has occurred in the IOPC Funds, where non-submission of reports results in non-payment of contributions but not in withholding of compensation.

   **Solution:** The draft Protocol deals with this in three ways.

   - In order to ratify the draft Protocol, States will be required to submit reports on contributing cargo - IMO, as Depositary, will not accept any ratifications which are not accompanied by such reports. States will also be obliged to continue to submit reports annually thereafter until the Protocol enters into force.
   - Should a State fail to submit reports annually, after depositing its instrument of ratification, but prior to entry into force of the Protocol, it will be temporarily suspended from being a Contracting State. The Protocol will, therefore, not enter into force for any State which is in arrears with reports.
   - Once the Protocol has entered into force for a State, compensation will be withheld, temporarily or permanently, in respect of that State, if it is in arrears with reports, except in the case of claims for personal injury and death.
International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001

Entry into force: 21 November 2008

The Convention was adopted to ensure that adequate, prompt, and effective compensation is available to persons who suffer damage caused by spills of oil, when carried as fuel in ships' bunkers. The Convention applies to damage caused on the territory, including the territorial sea, and in exclusive economic zones of States Parties.

The bunkers convention provides a free-standing instrument covering pollution damage only. "Pollution damage" means:

(a) loss or damage caused outside the ship by contamination resulting from the escape or discharge of bunker oil from the ship, wherever such escape or discharge may occur, provided that compensation for impairment of the environment other than loss of profit from such impairment shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken; and

(b) the costs of preventive measures and further loss or damage caused by preventive measures.

The convention is modelled on the International Convention on Civil Liability for Oil Pollution Damage, 1969. As with that convention, a key requirement in the draft bunkers convention is the need for the registered owner of a vessel to maintain compulsory insurance cover.

Another key provision is the requirement for direct action - this would allow a claim for compensation for pollution damage to be brought directly against an insurer.

The Convention requires ships over 1,000 gross tonnage to maintain insurance or other financial security, such as the guarantee of a bank or similar financial institution, to cover the liability of the registered owner for pollution damage in an amount equal to the limits of liability under the applicable national or international limitation regime, but in all cases, not exceeding an amount calculated in accordance with the Convention on Limitation of Liability for Maritime Claims, 1976, as amended.

Resolutions of the Conference
The Conference which adopted the Convention also adopted three resolutions:

Resolution on limitation of liability – the resolution urges all States that have not yet done so, to ratify, or accede to the Protocol of 1996 to amend the Convention on Limitation of Liability for Maritime Claims, 1976. The 1996 LLMC Protocol raises the limits of liability and therefore amounts of compensation payable in the event of an incident, compared to the 1976 Convention. The LLMC Protocol will enter into force 90 days after being accepted by 10 States – it has received four acceptances to date.

Resolution on promotion of technical co-operation – the resolution urges all IMO Member States, in co-operation with IMO, other interested States, competent international or regional organizations and industry programmes, to promote and provide directly, or through IMO, support to States that request technical assistance for:

(a) the assessment of the implications of ratifying, accepting, approving, or acceding to and complying with the Convention;

(b) the development of national legislation to give effect to the Convention;

(c) the introduction of other measures for, and the training of personnel charged with, the effective implementation and enforcement of the Convention; and

The resolution also urges all States to initiate action without awaiting the entry into force of the Convention.
Resolution on protection for persons taking measures to prevent or minimize the effects of oil pollution – the resolution urges States, when implementing the Convention, to consider the need to introduce legal provision for protection for persons taking measures to prevent or minimize the effects of bunker oil pollution. It recommends that persons taking reasonable measures to prevent or minimize the effects of oil pollution be exempt from liability unless the liability in question resulted from their personal act or omission, committed with the intent to cause damage, or recklessly and with knowledge that such damage would probably result. It also recommends that States consider the relevant provisions of the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996, as a model for their legislation.

Adoption: 18 May, 2007

Entry into force: Twelve months following the date on which ten States have either signed it without reservation as to ratification, acceptance or approval or have deposited instruments of ratification, acceptance, approval or accession with the IMO Secretary General.

A new international convention on wreck removal has been adopted in Kenya. The Nairobi International Convention on the Removal of Wrecks, 2007, will provide the legal basis for States to remove, or have removed, shipwrecks that may have the potential to affect adversely the safety of lives, goods and property at sea, as well as the marine environment.

The Convention was adopted by a five-day Diplomatic Conference - held from 14 to 18 May, 2007 in the United Nations Office at Nairobi (UNON).

The Convention will fill a gap in the existing international legal framework by providing the first set of uniform international rules aimed at ensuring the prompt and effective removal of wrecks located beyond the territorial sea. The new Convention also includes an optional clause enabling States Parties to apply certain provisions to their territory, including their territorial sea.

Although the incidence of marine casualties has decreased dramatically in recent years, mainly thanks to the work of IMO and the persistent efforts of Governments and industry to enhance safety in shipping operations, the number of abandoned wrecks, estimated at almost thirteen hundred worldwide, has reportedly increased and, as a result, the problems they cause to coastal States and shipping in general have, if anything, become more acute.

These problems are three-fold: first, and depending on its location, a wreck may constitute a hazard to navigation, potentially endangering other vessels and their crews; second, and of equal concern, depending on the nature of the cargo, is the potential for a wreck to cause substantial damage to the marine and coastal environments; and third, in an age where goods and services are becoming increasingly expensive, is the issue of the costs involved in the marking and removal of hazardous wrecks. The convention attempts to resolve all of these and other, related, issues.

Convention details
The new Convention provides a sound legal basis for coastal States to remove, or have removed, from their coastlines, wrecks which pose a hazard to the safety of navigation or to the marine and coastal environments, or both. It will make shipowners financially liable and require them to take out insurance or provide other financial security to cover the costs of wreck removal. It will also provide States with a right of direct action against insurers.

Articles in the Convention cover:

- reporting and locating ships and wrecks - covering the reporting of casualties to the nearest coastal State; warnings to mariners and coastal States about the wreck; and action by the coastal State to locate the ship or wreck;
- criteria for determining the hazard posed by wrecks, including depth of water above the wreck, proximity of shipping routes, traffic density and frequency, type of traffic and vulnerability of port facilities. Environmental criteria such as damage likely to result from the release into the marine environment of cargo or oil are also included;
- measures to facilitate the removal of wrecks, including rights and obligations to remove hazardous ships and wrecks - which sets out when the shipowner is responsible for removing the wreck and when a State may intervene;
- liability of the owner for the costs of locating, marking and removing ships and wrecks - the registered shipowner is required to maintain compulsory insurance or other financial security to cover liability under the convention; and
- settlement of disputes.
Entry into force criteria
The Convention will open for signature from 19 November 2007 until 18 November 2008 and, thereafter, will be open for ratification, accession or acceptance. It will enter into force twelve months following the date on which ten States have either signed it without reservation as to ratification, acceptance or approval or have deposited instruments of ratification, acceptance, approval or accession with the Secretary General.

Resolutions adopted by the conference
The Nairobi conference adopted three resolutions:

1. Resolution on expressions of appreciation - thanks the host country and UNON and designates the convention as the Nairobi International Convention on the Removal of Wrecks, 2007.

2. Resolution on compulsory insurance certificates under existing maritime liability conventions, including the Nairobi International Convention on the Removal of Wrecks, 2007 - urges IMO Member States to ensure the entry into force of other liability and compensation conventions, namely the International Convention on Liability and Compensation for Damage in connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996, the International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 and the Protocol to the Athens Convention Relating to the Carriage of Passengers and their Luggage by Sea, 2002; and invites IMO, specifically the Legal Committee, to develop a model for a single insurance certificate which may be issued by States Parties in respect of each and every ship under the relevant IMO liability and compensation conventions, including the Nairobi International Convention on the Removal of Wrecks.

3. Resolution on promotion of technical co-operation and assistance - invites States Parties to the Convention, Member States of IMO, other appropriate organizations and the maritime industry to provide financial and in-kind support to IMO for technical assistance activities related to the adoption and effective implementation of the Convention.
Other Subjects

Convention on Facilitation of International Maritime Traffic, 1965

Adoption: 9 April 1965
Entry into force: 5 March 1967

Most human activities are regulated, either by precedent, convention or regulation. Most regulations are essential - but sometimes they come to be regarded not only as unnecessary but also as a significant burden on the activities they are supposed to control. Few activities have been more subject to over-regulation than international maritime transport.

This is partly because of the international nature of shipping: countries developed customs, immigration and other standards independently of each other and a ship visiting several countries during the course of a voyage could expect to be presented with numerous forms to fill in, often asking for exactly the same information but in a slightly different way.

As shipping and trade developed and grew in the early part of the twentieth century, so did the paperwork involved. By the 1950s it was being regarded not simply as an inconvenience but as a threat.

The actual number of separate documents required varied from port to port; yet the information on cargoes and persons carried that was sought was often identical. The number of copies required of some of these documents could often become excessive. To the variety of forms and the number of copies required could be added other burdens such as local language translations, consular visa requirements, variations in document size and paper stock used and the necessity for authentication by the shipmaster of the information submitted.

By the early 1960s the maritime nations had decided that the situation could not be allowed to deteriorate further. International action was called for and to achieve it Governments turned to IMO, which had held its first meeting in 1959.

In 1961 the 2nd IMO Assembly adopted resolution A.29 (II) which recommended that IMO take up the matter. An Expert Group was convened which recommended that an international convention be adopted to assist the facilitation of international maritime traffic. In October 1963 the 3rd IMO Assembly adopted resolution A.63 (III) which approved the report of Expert Group and in particular recommended that a convention be drafted which would be considered for adoption at a conference to be held under IMO auspices in the spring of 1965. The conference duly took place and the Convention on Facilitation of International Maritime Traffic (FAL), 1965 was adopted on 9 April.

The Convention's main objectives are to prevent unnecessary delays in maritime traffic, to aid co-operation between Governments, and to secure the highest practicable degree of uniformity in formalities and other procedures. In particular, the Convention reduces to just eight the number of declarations which can be required by public authorities.

Standards and recommended practices
In its Annex, the Convention contains "Standards" and "Recommended Practices" on formalities, documentary requirements and procedures which should be applied on arrival, stay and departure to the ship itself, and to its crew, passengers, baggage and cargo. The Convention defines standards as internationally-agreed measures which are "necessary and practicable in order to facilitate international maritime traffic" and recommended practices as measures the application of which is "desirable".

The Convention provides that any Contracting Government which finds it impracticable to comply with any international standard, or deems it necessary to adopt differing regulations, must inform the Secretary-General of IMO of the "differences" between its own practices and the standards in question. The same procedure applies to new or amended standards.
In the case of recommended practices, Contracting Governments are urged to adjust their laws accordingly but are only required to notify the Secretary-General when they have brought their own formalities, documentary requirements and procedures into full accord.

This flexible concept of standards and recommended practices, coupled with the other provisions, allows continuing progress to be made towards the formulation and adoption of uniform measures in the facilitation of international maritime traffic.

The IMO Standardized Forms (FAL 1-7)
Standard 2.1 lists the documents which public authorities can demand of a ship and recommends the maximum information and number of copies which should be required. IMO has developed Standardized Forms for seven of these documents. They are the:

- IMO General Declaration
- Cargo Declaration
- Ship's Stores Declaration
- Crew's Effects Declaration
- Crew List
- Passenger List
- Dangerous goods

Two other documents are required under the Universal Postal Convention and the International Health Regulations.

The general declaration, cargo declaration, crew list and passenger list constitute the maximum information necessary. The ship's stores declaration and crew's effects declaration incorporate the agreed essential minimum information requirements.

Amendments
Amendments are generally considered and adopted by IMO's Facilitation Committee, while Contracting Governments can also call a Conference of Parties to the Convention to adopt amendments.

The 1973 amendments
Adoption: November 1973
Entry into force: 2 June 1984
The 1973 amendments introduced the "tacit acceptance" procedure.

The 1986 amendments
Adoption: 7 March 1986
Entry into force: 1 October 1986
The new "tacit acceptance" procedure made it possible to update the Convention speedily and the 1986 amendments were designed primarily to reduce "red tape" and in particular to enable automatic data processing techniques to be used in shipping documentation.

The 1987 amendments
Adoption: September 1987
Entry into force: 1 January 1989
The amendments simplify the documentation required by ships including crew lists, and also facilitate the movement of ships engaged in disaster relief work and similar activities.

The May 1990 amendments
Adoption: May 1990
Entry into force: 1 September 1991
The amendments revise several recommended practices and add others dealing with drug trafficking and the problems of the disabled and elderly. They encourage the establishment of national facilitation Committees and also cover stowaways and traffic flow arrangements.
The 1992 amendments
Adoption: 1 May 1992
Entry into force: 1 September 1993

The amendments concern the Annex to the Convention and deal with the following subjects:
* electronic data processing/electronic data interchange (EDP/EDI)
* private gift packages and trade samples
* consular formalities and fees
* submission of pre-import information
* clearance of specialized equipment
* falsified documents

The annex was also restructured.

The 1993 amendments
Adoption: 29 April 1993
Entry into force: 1 September 1994

The amendments to the Annex to the Convention deal with unmanifested parcels and the handling of stowaways.

The 1996 amendments
Adoption: 1 January 1996
Entry into force: 1 May 1997

The amendments concern the passenger list, national facilitation committees, inadmissible persons, immigration pre-arrival clearance, pre-import information and cruise passengers.

The 1999 amendments
Adoption: 9 September 1999
Entry into force: 1 January 2001

The amendments relate to the combating of illicit drug trafficking; arrival, stay and departure of ships, passengers, crews and cargo; and the use of electronic data interchange (EDI) for ship clearance purposes.

The 2002 amendments
Adoption: 10 January 2002
Entry into force: 1 May 2003

The amendments add new standards and recommended practices for dealing with stowaways. Another amendment relates to the Dangerous Goods Manifest (FAL Form 7), which becomes the basic document providing public authorities with the information regarding dangerous goods on board ships.
International Convention on Tonnage Measurement of Ships, 1969

**Adoption:** 23 June 1969  
**Entry into force:** 18 July 1982

The Convention, adopted by IMO in 1969, was the first successful attempt to introduce a universal tonnage measurement system.

Previously, various systems were used to calculate the tonnage of merchant ships. Although all went back to the method devised by George Moorsom of the British Board of Trade in 1854, there were considerable differences between them and it was recognized that there was a great need for one single international system.

The Convention provides for gross and net tonnages, both of which are calculated independently.

The rules apply to all ships built on or after 18 July 1982 - the date of entry into force - while ships built before that date were allowed to retain their existing tonnage for 12 years after entry into force, or until 18 July 1994.

This phase-in period was intended to ensure that ships were given reasonable economic safeguards, since port and other dues are charged according to ship tonnage. At the same time, and as far as possible, the Convention was drafted to ensure that gross and net tonnages calculated under the new system did not differ too greatly from those calculated under previous methods.

The Convention meant a transition from the traditionally used terms gross register tons (grt) and net register tons (nrt) to gross tons (GT) and net tons (NT).

Gross tonnage forms the basis for manning regulations, safety rules and registration fees. Both gross and net tonnages are used to calculate port dues.

The gross tonnage is a function of the moulded volume of all enclosed spaces of the ship. The net tonnage is produced by a formula which is a function of the moulded volume of all cargo spaces of the ship. The net tonnage shall not be taken as less than 30 per cent of the gross tonnage.

Adoption: 10 March 1988
Entry into force: 1 March 1992

Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms Located on the Continental Shelf, 1988

Adoption: 10 March 1988
Entry into force: 1 March 1992

The Protocol extends the requirements of the Convention to fixed platforms such as those engaged in the exploitation of offshore oil and gas.

Introduction

Concern about unlawful acts which threaten the safety of ships and the security of their passengers and crews grew during the 1980s, with reports of crews being kidnapped, ships being hi-jacked, deliberately run aground or blown up by explosives. Passengers were threatened and sometimes killed.

In November 1985 the problem was considered by IMO's 14th Assembly and a proposal by the United States that measures to prevent such unlawful acts should be developed by IMO was supported.

Resolution A.584(14)

The Assembly adopted resolution A.584(14) Measures to prevent unlawful acts which threaten the safety of ships and the security of their passengers and crew which notes "with great concern the danger to passengers and crews resulting from the increasing number of incidents involving piracy, armed robbery and other unlawful acts against or on board ships, including small craft, both at anchor and under way."

The IMO Assembly directed the Maritime Safety Committee to develop, on a priority basis, detailed and practical technical measures, including both shoreside and shipboard measures, to ensure the security of passengers and crews on board ships. The measures were to take into account the work of the International Civil Aviation Organization (ICAO) in the development of standards and recommended practices for airport and aircraft security.

In December 1985 further support came from the United Nations General Assembly which called upon IMO "to study the problem of terrorism aboard or against ships with a view to making recommendations on appropriate measures."

MSC Circular

The MSC in 1986 issued a Circular (MSC/Circ.443) on Measures to prevent unlawful acts against passengers and crews on board ships - which states that Governments, port authorities, administrations, shipowners, shipmasters and crews should take appropriate measures to prevent unlawful acts which may threaten passengers and crews. The Circular gives guidelines on measures that can be taken - with application to passenger ships engaged on international voyages of 24 hours or more and port facilities which service them.

In November 1986 the Governments of Austria, Egypt and Italy proposed that IMO prepare a convention on the subject of unlawful acts against the safety of maritime navigation "to provide for a comprehensive suppression of unlawful acts committed against the safety of maritime navigation which endanger innocent human lives, jeopardize the safety of persons and property, seriously affect the operation of maritime services and thus are of grave concern to the international community as a whole."

Convention aims

The proposal was supported, and in March 1988 a conference was held in Rome which adopted the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation.
The main purpose of the convention is to ensure that appropriate action is taken against persons committing unlawful acts against ships. These include the seizure of ships by force; acts of violence against persons on board ships; and the placing of devices on board a ship which are likely to destroy or damage it.

The convention obliges Contracting Governments either to extradite or prosecute alleged offenders.

Amendment procedure
IMO may convene a conference of States parties to the Convention for the purpose of revising or amending the convention, at the request of one third or ten States Parties, whichever is the highest.

2005 Protocols
Adoption: 14 October 2005
Entry into force: The amended Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation will enter into force ninety days after the date on which twelve States have either signed it without reservation as to ratification, acceptance or approval, or have deposited an instrument of ratification, acceptance, approval or accession with the Secretary-General.

The amended Protocol requires ratification from three States which are also party to the SUA Convention but it cannot come into force unless the 2005 SUA Convention is already in force. Amendments to the Convention for the Suppression of Unlawful Acts (SUA) Against the Safety of Maritime Navigation, 1988 and its related Protocol, were adopted by the Diplomatic Conference on the Revision of the SUA Treaties held from 10 to 14 October 2005. The amendments were adopted in the form of Protocols to the SUA treaties (the 2005 Protocols).

2005 Protocol to the SUA Convention
Among the unlawful acts covered by the SUA Convention in Article 3 are the seizure of ships by force; acts of violence against persons on board ships; and the placing of devices on board a ship which are likely to destroy or damage it.

The 2005 Protocol to the SUA Convention adds a new Article 3bis which states that a person commits an offence within the meaning of the Convention if that person unlawfully and intentionally:

- when the purpose of the act, by its nature or context, is to intimidate a population, or to compel a Government or an international organization to do or to abstain from any act:
  - uses against or on a ship or discharging from a ship any explosive, radioactive material or BCN (biological, chemical, nuclear) weapon in a manner that causes or is likely to cause death or serious injury or damage;
  - discharges, from a ship, oil, liquefied natural gas, or other hazardous or noxious substance, in such quantity or concentration that causes or is likely to cause death or serious injury or damage;
  - uses a ship in a manner that causes death or serious injury or damage;
- transports on board a ship any explosive or radioactive material, knowing that it is intended to be used to cause, or in a threat to cause, death or serious injury or damage for the purpose of intimidating a population, or compelling a Government or an international organization to do or to abstain from doing any act;
- transports on board a ship any BCN weapon, knowing it to be a BCN weapon;
- any source material, special fissionable material, or equipment or material especially designed or prepared for the processing, use or production of special fissionable material, knowing that it is intended to be used in a nuclear explosive activity or in any other nuclear activity not under safeguards pursuant to an IAEA comprehensive safeguards agreement; and
- transports on board a ship any equipment, materials or software or related technology that significantly contributes to the design, manufacture or delivery of a BCN weapon, with the
intention that it will be used for such purpose.

The transportation of nuclear material is not considered an offence if such item or material is transported to or from the territory of, or is otherwise transported under the control of, a State Party to the Treaty on the Non Proliferation of Nuclear Weapons (Subject to conditions).

Under the new instrument, a person commits an offence within the meaning of the Convention if that person unlawfully and intentionally transports another person on board a ship knowing that the person has committed an act that constitutes an offence under the SUA Convention or an offence set forth in any treaty listed in the Annex. The Annex lists nine such treaties.

The new instrument also makes it an offence to unlawfully and intentionally injure or kill any person in connection with the commission of any of the offences in the Convention; to attempt to commit an offence; to participate as an accomplice; to organize or direct others to commit an offence; or to contribute to the commissioning of an offence.

A new Article requires Parties to take necessary measures to enable a legal entity (this could be a company or organization, for example) to be made liable and to face sanctions when a person responsible for management of control of that legal entity has, that capacity, committed an offence under the Convention.

**Boarding provisions**

Article 8 of the SUA Convention covers the responsibilities and roles of the master of the ship, flag State and receiving State in delivering to the authorities of any State Party any person believed to have committed an offence under the Convention, including the furnishing of evidence pertaining to the alleged offence.

A new Article 8bis in the 2005 Protocol covers co-operation and procedures to be followed if a State Party desires to board a ship flying the flag of a State Party when the requesting Party has reasonable grounds to suspect that the ship or a person on board the ship is, has been, or is about to be involved in, the commission of an offence under the Convention.

The authorization and co-operation of the flag State is required before such a boarding. A State Party may notify the IMO Secretary-General that it would allow authorization to board and search a ship flying its flag, its cargo and persons on board if there is no response from the flag State within four hours. A State Party can also notify that it authorizes a requesting Party to board and search the ship, its cargo and persons on board, and to question the persons on board to determine if an offence has been, or is about to be, committed.

The use of force is to be avoided except when necessary to ensure the safety of officials and persons on board, or where the officials are obstructed to the execution of authorized actions.

Article 8bis includes important safeguards when a State Party takes measures against a ship, including boarding. The safeguards include: not endangering the safety of life at sea; ensuring that all persons on board are treated in a manner which preserves human dignity and in keeping with human rights law; taking due account of safety and security of the ship and its cargo; ensuring that measures taken are environmentally sound; and taking reasonable efforts to avoid a ship being unduly detained or delayed.

**Extradition**

Article 11 covers extradition procedures. A new Article 11bis states that none of the offences should be considered for the purposes of extradition as a political offence. New article 11ter states that the obligation to extradite or afford mutual legal assistance need not apply if the request for extradition is believed to have been made for the purpose of prosecuting or punishing a person on account of that person's race, religion, nationality, ethnic origin, political opinion or gender, or that compliance with the request would cause prejudice to that person's position for any of these reasons.
Article 12 of the Convention requires States Parties to afford one another assistance in connection with criminal proceedings brought in respect of the offences. A new Article 12bis cover the conditions under which a person who is being detained or is serving a sentence in the territory of one State Party may be transferred to another State Party for purposes of identification, testimony or otherwise providing assistance in obtaining evidence for the investigation or prosecution of offences.

**Amendment procedure**

Amendments to the Articles in the Convention require acceptance by a requisite number of States. However, the Annex, which lists the treaties under which offences can be considered for the purpose of the SUA Convention, has a special amendment procedure.

The treaties listed are:

5. Convention on the Physical Protection of Nuclear Material, done at Vienna on 26 October 1979

**2005 Protocol to the 1988 SUA Protocol**


New article 2bis broadens the range of offences included in the Protocol. A person commits an offence if that person unlawfully and intentionally, when the purpose of the act, by its nature or context, is to intimidate a population, or to compel a Government or an international organization to do or to abstain from doing any act, uses against or on a fixed platform or discharges from a fixed platform any explosive, radioactive material or BCN weapon in a manner that causes or is likely to cause death or serious injury or damage; or discharges from a fixed platform, oil, liquefied natural gas, or other hazardous or noxious substance, in such quantity or concentration, that it causes or is likely to cause death or serious injury or damage; or threatens, with or without a condition, as is provided for under national law, to commit an offence.

New article 2ter includes the offences of unlawfully and intentionally injuring or killing any person in connection with the commission of any of the offences; attempting to commit an offence; participating as an accomplice; organizing or directing others to commit an offence.
International Convention on Salvage, 1989

Adoption: 28 April 1989
Entry into force: 14 July 1996

The Convention replaced a convention on the law of salvage adopted in Brussels in 1910 which incorporated the "no cure, no pay" principle under which a salvor is only rewarded for services if the operation is successful.

Although this basic philosophy worked well in most cases, it did not take pollution into account. A salvor who prevented a major pollution incident (for example, by towing a damaged tanker away from an environmentally sensitive area) but did not manage to save the ship or the cargo got nothing. There was therefore little incentive to a salvor to undertake an operation which has only a slim chance of success.

The 1989 Convention seeks to remedy this deficiency by making provision for an enhanced salvage award taking into account the skill and efforts of the salvors in preventing or minimizing damage to the environment.

It further introduced a "special compensation" to be paid to salvors who have failed to earn a reward in the normal way (i.e. by salving the ship and cargo).

Damage to the environment is defined as "substantial physical damage to human health or to marine life or resources in coastal or inland waters or areas adjacent thereto, caused by pollution, contamination, fire, explosion or similar major incidents."

The compensation consists of the salvor's expenses, plus up to 30% of these expenses if, thanks to the efforts of the salvor, environmental damage has been minimized or prevented. The salvor's expenses are defined as "out-of-pocket expenses reasonably incurred by the salvor in the salvage operation and a fair rate for equipment and personnel actually and reasonably used".

The tribunal or arbitrator assessing the reward may increase the amount of compensation to a maximum of 100% of the salvor's expenses, "if it deems it fair and just to do so".

If, on the other hand, the salvor is negligent and has consequently failed to prevent or minimize environmental damage, special compensation may be denied or reduced. Payment of the reward is to be made by the vessel and other property interests in proportion to their respective salved values.
International Convention on Maritime Liens and Mortgages, 1993

Adopted: 6 May 1993 at Geneva by UN/IMO
Entry into force: 5 September 2004

The Convention aims to stimulate the financing of ships by facilitating the creation of liens and mortgages. The Convention contains rules of uniform law as well as conflict of law rules. According to Article 13, paragraph 1, the Convention “shall apply to all seagoing vessels registered in a State Party or in a State which is not a State Party, provided that the latter’s vessels are subject to the jurisdiction of the State Party”.

The number of claims which rank above mortgage has been reduced compared to other conventions as the International Convention for the Unification of Certain Rules of Law Relating to Mortgages and Liens (Brussel, 10 April 1926) and the International Convention for the Unification of Certain Rules relating to Maritime Liens and Mortgages (Brussel, 27 May 1967). Those claims are:

(a) Claims for wages and other sums due to the master, officers and other members of the vessel’s complement in respect of their employment on the vessel, including costs of repatriation and social insurance contributions payable on their behalf;
(b) Claims in respect of loss of life or personal injury occurring, whether on land or on water, in direct connection with the operation of the vessel;
(c) Claims for reward for the salvage of the vessel;
(d) Claims for port, canal, and other waterway dues and pilotage dues;
(e) Claims based on tort arising out of physical loss or damage caused by the operation of the vessel other than loss of or damage to cargo, containers and passengers’ effects carried on the vessel.

Article 6 states that States are allowed to create privileges for other claims in their national law. Those claims rank after claims which have been secured by a mortgage. The Convention does not provide for a completely uniform system for liens and mortgages. For this reason a conflict of law rules has been given in Article 2:

The ranking of registered mortgages, "hypothèques" or charges as between themselves and, without prejudice to the provisions of this Convention, their effect in regard to third parties shall be determined by the law of the State of registration; however, without prejudice to the provisions of this Convention, all matters relating to the procedure of enforcement shall be regulated by the law of the State where enforcement takes place.
International Convention on Arrest of Ships, 1999

Adopted: 12 March 1999 at Geneva by UN/IMO

Entry into force: The Convention will enter into force six months after the date on which ten States have expressed their consent to be bound by it. As at September 2005, the Convention had seven Contracting Parties.

The Convention aims at providing a widely acceptable legal instrument promoting international trade and transport, by striking a balance between the interests of the owners of cargo and of ships in securing the free movement of ships and the right of the claimant to obtain security for his claim.

The Convention applies to any ship within the jurisdiction of any State Party, whether or not that ship is flying the flag of a State Party. It does not apply to any warship, naval auxiliary or other ships owned or operated by a State and used, for the time being, only on government non-commercial service.