جمهوری اسلامی ایران
مجلس شورای اسلامی
دفتر رئیس

شماره ۸۲/۴۸۳۱۵
تاریخ ۱۳۸۳/۶/۰۵
پیوست

بسمه تعالی

ورود به دبیرخانه شورای نگهبان
شماره ثبت: ۸۳/۱۱/۵۸۳۰ صبح
تاریخ ثبت: عصر
اقدام کننده: ۸۳/۶/۵

شورای محترم نگهبان

لایحه الحاق دولت جمهوری اسلامی ایران به پروتکل ۱۹۸۸ کنوانسیون بین‌المللی ایمنی جان اشخاص در دریا مصوب سال ۱۳۵۳ هجری شمسی مطابق با سال ۱۹۷۴ میلادی که از سوی دولت به شماره ۲۷۷۲۶/۵۱۱۸۶ مورخ ۱۳۸۱/۱۰/۱۴ به مجلس شورای اسلامی تقدیم و در جلسه علنی روز دوشنبه مورخ ۱۳۸۳/۶/۲ مجلس با اصلاحاتی در ماده واحده به‌تصویب رسید، در اجرای اصل نود و چهارم (۹۴) قانون اساسی جمهوری اسلامی ایران جهت بررسی و اظهارنظر آن شورای محترم به‌پیوست ارسال می‌گردد.ع

غلامعلی حدادعادل
رئیس مجلس شورای اسلامی

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لایحه الحاق دولت جمهوری اسلامی ایران به پروتکل ۱۹۸۸ کنوانسیون بین‌المللی ایمنی جان اشخاص در دریا مصوب سال ۱۳۵۳ هجری شمسی مطابق با سال ۱۹۷۴ میلادی

ماده واحده - به دولت جمهوری اسلامی ایران اجازه داده می‌شود به پروتکل مصوب سال ۱۳۶۷ هجری شمسی مطابق با سال ۱۹۸۸ میلادی کنوانسیون بین‌المللی ایمنی جان اشخاص در دریا (۱۹۷۴) سازمان بین‌المللی دریانوردی مشتمل بر نه ماده، نوزده مقرره، یک پیوست و پنج قطعنامه به شرح پیوست ملحق شود و اسناد مربوط را مبادله نماید.

بسم‌الله الرحمن الرحیم

پروتکل ۱۹۸۸ مربوط به کنوانسیون بین‌المللی ایمنی جان اشخاص در دریا، ۱۹۷۴

متعاهدین به پروتکل حاضر:

که متعاهد به کنوانسیون بین‌المللی ایمنی جان اشخاص در دریا مصوب اول نوامبر ۱۹۷۴ (برابر با دهم آبان ۱۳۵۳) لندن می‌باشند،

با تشخیص نیاز به معرفی مقرراتی در کنوانسیون فوق‌الذکر برای بازرسی و صدور گواهینامه هماهنگ با مقررات مشابه در سایر اسناد بین‌المللی،

با در نظر گرفتن این که این نیاز به نحو احسن با انعقاد پروتکل مربوط به کنوانسیون بین‌المللی ایمنی جان اشخاص در دریا، (۱۹۷۴) تأمین می‌شود،

به شرح زیر توافق نمودند:

ماده ۱ - تعهدات کلی

۱ - متعاهدین به پروتکل حاضر متعهد می‌شوند که مقررات پروتکل حاضر و ضمائم آن که جزء لاینفک پروتکل حاضر محسوب می‌شوند را به مرحله اجرا درآورند. هرگونه ارجاع به پروتکل حاضر در عین حال به منزله ارجاع به ضمائم آن است.

۲ - بین متعاهدین به پروتکل حاضر، مقررات کنوانسیون بین‌المللی ایمنی جان اشخاص در دریا، (۱۹۷۴) آن طور که اصلاح شده (که از این به بعد «کنوانسیون» نامیده می‌شود) باید با توجه به تغییرات و الحاقات مندرج در پروتکل حاضر، به‌کارگرفته شوند.

۳ - در مورد کشتیهائی که محق به برافراشتن پرچم کشوری که متعاهد به کنوانسیون و پروتکل حاضر نیستند، متعاهدین به پروتکل حاضر باید الزامات کنوانسیون و پروتکل حاضر را حسب لزوم به منظور اطمینان از این که هیچ رفتار مطلوب دیگری درمورد این کشتیها به کارگرفته نشده است، اعمال نمایند.

ماده ۲ - معاهدات قبلی

۱ - بین کشورهای متعاهد به این پروتکل، پروتکل حاضر جایگزین و ملغی کننده پروتکل سال ۱۹۷۸ مربوط به کنوانسیون می‌باشد.

۲ - علی‌رغم هرگونه مقررات دیگری در پروتکل حاضر، هرگواهینامه که بر طبق و تحت مقررات کنوانسیون صادر شده باشد و هر متمم چنین گواهینامه که بر طبق و تحت مقررات پروتکل ۱۹۷۸ مربوط به کنوانسیون که در زمان لازم‌الاجراء شدن پروتکل حاضر در ارتباط با آن متعاهدی که توسط آن گواهینامه و یا متمم صادر شده است، باید تا تاریخ انقضاء آنها تحت مفاد کنوانسیون یا پروتکل ۱۹۷۸ مربوط به کنوانسیون، حسب مورد معتبر باقی بماند.

۳ - هر متعاهدی به پروتکل حاضر نباید برطبق و تحت مقررات کنوانسیون بین‌المللی ایمنی جان اشخاص در دریا، ۱۹۷۴ که در اول نوامبر سال ۱۹۷۴ (برابر با دهم آبان ۱۳۵۳) به تصویب رسید، گواهینامه صادر نماید.

ماده ۳ - تبادل اطلاعات

متعاهدین به پروتکل حاضر متعهد می‌شوند اسناد ذیل را به دبیرکل سازمان بین‌المللی دریانوردی (که از این پس «سازمان» خوانده می‌شود) ارسال و توزیع نمایند:

الف - متن قوانین، مصوبات، احکام، مقررات و دیگر اسناد درمورد موضوعات مختلف که در محدوده پروتکل حاضر رسماً اعلام شده باشد؛

ب - فهرستی از بازرسان منتخب یا سازمانهای مشخص شده که به نیابت از آنها مجاز به فعالیت در زمینه اداره امور ایمنی جان اشخاص در دریا جهت ابلاغ به متعاهدین و اطلاع مأمورین آنها عمل می‌کنند و اطلاعیه‌ای در رابطه با مسؤولیت‌های ویژه و شرایط اختیارات تفویض شده به بازرسان منتخب یا سازمانهای مشخص شده؛ و

ج - تعداد کافی از نمونه‌های گواهینامه‌های مربوطه صادره تحت مقررات پروتکل حاضر.

ماده ۴ - امضاء، تصویب، پذیرش، تأیید و الحاق

۱ - پروتکل حاضر از تاریخ اول مارس ۱۹۸۹ (برابر با دهم اسفند ۱۳۶۸) تا بیست و هشتم فوریه ۱۹۹۰ (برابر با نهم اسفند ۱۳۶۹) در مقر مرکزی سازمان جهت امضاء و پس از آن تاریخ، جهت الحاق مفتوح خواهد بود. منوط به مقررات بند (۳)، کشورها می‌توانند رضایت خود را برای عضویت در این پروتکل به روشهای زیر اعلام نمایند:

الف - امضاء بدون حق شرط تصویب، پذیرش، یا تأیید؛ یا

ب - امضاء مشروط به تصویب، پذیرش یا تأیید و پس از آن تصویب، پذیرش یا

تأیید، یا

ج - الحاق.

۲ - تصویب، پذیرش، تأیید یا الحاق باید با تسلیم یک سند به این منظور به دبیرکل سازمان صورت پذیرد.

۳ - پروتکل حاضر ممکن است بدون حق شرط تأیید، پذیرش یا مورد الحاق قرار گیرد، فقط توسط کشورهائی که کنوانسیون را بدون حق شرط، تصویب، قبول، تأیید یا به آن ملحق شده‌اند.

ماده ۵ - لازم‌الاجراء شدن

۱ - پروتکل حاضر باید دوازده ماه پس از تاریخ تحقق یافتن دو شرط ذیل لازم‌الاجراء گردد:

الف - حداقل پانزده کشور که مجموع ناوگانهای تجاری آنها از پنجاه درصد (۵۰٪) تناژ ناخالص کشتیرانی تجاری جهانی کمتر نباشد، رضایت خود را مبنی بر عضویت در این پروتکل برطبق ماده (۴) ابراز نموده باشند، و

ب - شرایط لازم‌الاجراء شدن پروتکل ۱۹۸۸ در رابطه با کنوانسیون بین‌المللی خط شاهین، ۱۹۶۶ برآورده شده باشد.

به شرط این که پروتکل حاضر تا قبل از اول فوریه ۱۹۹۲ (برابر با دوازدهم بهمن ۱۳۷۱) لازم‌الاجراء نشده باشد.

۲ - برای کشورهائی که سند تصویب، پذیرش، تأیید یا الحاق در رابطه با پروتکل حاضر را بعد از زمانی که شرایط لازم‌الاجراء شدن آن تحقق یافته باشد، اما قبل از تاریخ لازم‌الاجراء شدن تسلیم کرده‌اند، تصویب، پذیرش، تأیید یا الحاق در تاریخ لازم‌الاجراء شدن پروتکل حاضر یا سه ماه پس از تاریخ تسلیم اسناد، هرکدام که دیرتر باشد، به مورد اجراء در خواهد آمد.

۳ - هر سند تصویب، پذیرش، تأیید یا الحاق که پس از تاریخ لازم‌الاجراء شدن پروتکل حاضر تسلیم شود، باید سه ماه پس از تاریخ تسلیم به مرحله اجراء درآید.

۴ - بعد از تاریخی که اصلاحیه‌ای به پروتکل حاضر تحت ماده (۶) پذیرفته شده تلقی شود، هر سند تصویب، پذیرش، تأیید یا الحاق تسلیم شده باید درمورد پروتکل حاضر آن طور که اصلاح شده، اعمال گردد.

ماده ۶ - اصلاحیه‌ها

روشهائی که در ماده (۸) کنوانسیون قید شده است در اصلاحیه‌های پروتکل حاضر به کارگرفته خواهد شد، به شرط آن که :

الف - هرگونه ارجاع در آن ماده به کنوانسیون و دولتهای متعاهد به ترتیب به منزله ارجاع به پروتکل حاضر و متعاهدین به پروتکل حاضر می‌باشد؛

ب - اصلاحیه‌های ماده‌های پروتکل حاضر و ضمیمه آن باید برطبق رویه قابل اجرا درمورد اصلاحیه‌های ماده‌های کنوانسیون یا فصل یک ضمیمه آن تصویب شده و به اجرا درآید؛ و

ج - اصلاحیه‌های پیوست ضمیمه پروتکل حاضر می‌تواند برطبق رویه قابل اجرا درمورد اصلاحیه‌های ضمیمه کنوانسیون به غیر از فصل یک تصویب و به اجرا درآید.

ماده ۷ - انصراف

۱ - پروتکل حاضر می‌تواند توسط هر متعاهدی در هر زمان پس از سپری شدن پنج سال از تاریخی که پروتکل حاضر درمورد آن طرف لازم‌الاجراء می‌شود، مورد انصراف واقع شود.

۲ - انصراف با تودیع سند انصراف نزد دبیرکل سازمان معتبر خواهد بود.

۳ - انصراف یک سال پس از دریافت سند انصراف توسط دبیرکل، یا پس از سپری

شدن دوره طولانی تری که ممکن است در سند انصراف مشخص شده باشد معتبر خواهد شد.

۴ - انصراف از کنوانسیون مربوطه توسط یک متعاهد باید به منزله انصراف از پروتکل حاضر توسط آن متعاهد در نظر گرفته شود. چنین انصرافی در همان تاریخی که انصراف از کنوانسیون مربوطه مطابق با بند (ج) ماده (۱۱) آن کنوانسیون به مورد اجرا درمی‌آید، نافذ خواهد شد.

ماده ۸ - امین اسناد

۱ - پروتکل حاضر باید نزد دبیرکل سازمان (که از این پس «امین اسناد» خوانده می‌شود) سپرده شود.

۲ - امین اسناد باید:

الف - موارد ذیل را به اطلاع دولتهای تمام کشورهائی که پروتکل حاضر را امضاء نموده‌اند یا بدان ملحق شده‌اند برساند:

(۱) - هر امضاء جدید یا تسلیم یک سند تصویب، پذیرش، تأیید یا الحاق، به همراه تاریخ مربوطه؛

(۲) - تاریخ لازم‌الاجراء شدن پروتکل حاضر؛

(۳) - تسلیم هر سند انصراف از پروتکل حاضر به همراه تاریخ دریافت سند و تاریخی که انصراف معتبر خواهد شد؛

ب - نسخ گواهی شده برابر اصل پروتکل حاضر را به دولتهای تمام کشورهائی که پروتکل حاضر را امضاء نموده یا بدان ملحق شده‌اند، ارسال نماید.

۳ - به محض این که پروتکل حاضر لازم‌الاجراء شد، یک نسخه گواهی شده برابر اصل آن باید توسط امین اسناد به دبیرخانه سازمان ملل جهت ثبت و انتشار مطابق با ماده (۱۰۲) منشور سازمان ملل ارسال گردد.

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ماده ۹ - زبان‌ها

پروتکل حاضر در یک نسخه اصلی به زبانهای عربی، چینی، انگلیسی، فرانسوی، روسی و اسپانیائی تهیه گردید که هر یک از متون آنها به طور مساوی معتبر می‌باشد. ترجمه رسمی زبان ایتالیائی باید تهیه و به همراه نسخه اصلی امضاء شده، سپرده شود.

این پروتکل در یازدهمین روز نوامبر سال یکهزار و نهصد و هشتاد و هشت (برابر با بیستم آبان ماه ۱۳۶۷) در لندن انجام شد.

در احراز مراتب فوق، امضاء کنندگان ذیل که از طرف دوَل متبوعه خود بدین منظور دارای اختیار کامل می‌باشند، پروتکل حاضر را امضاء نموده‌اند.

لایحه فوق مشتمل بر ماده واحده منضم به متن موافقتنامه شامل مقدمه و نه ماده / نوزده مقرره، یک پیوست و پنج قطعنامه در جلسه علنی روز دوشنبه مورخ دوم شهریورماه یکهزار و سیصد و هشتاد و سه مجلس شورای اسلامی به‌تصویب رسید.ع

غلامعلی حدادعادل
رئیس مجلس شورای اسلامی

کنوانسیون ۱۹۷۴
و پروتکل و اصلاحیه های آن

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

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

Introduction and history

The SOLAS Convention in its successive forms is generally regarded as the most important of all international treaties concerning the safety of merchant ships. The first version was adopted in 1914, in response to the **Titanic** disaster, the second in 1929, the third in 1948 and the fourth in 1960.

The **1960** Convention - which was adopted on 17 June 1960 and entered into force on 26 May 1965 - was the first major task for IMO after the Organization's creation and it represented a considerable step forward in modernizing regulations and in keeping pace with technical developments in the shipping industry.

The intention was to keep the Convention up to date by periodic amendments but in practice the amendments procedure incorporated proved to be very slow. It became clear that it would be impossible to secure the entry into force of amendments within a reasonable period of time.

As a result, a completely new Convention was adopted in 1974 which included not only the amendments agreed up until that date but a new amendment procedure - the tacit acceptance procedure - designed to ensure that changes could be made within a specified (and acceptably short) period of time.

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 of the SOLAS 1974 Convention 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 so-called "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 (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 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.

However, 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 and when this is decided by a Conference. In practice to date, the expanded MSC has adopted most amendments to SOLAS, while Conferences have been held on several occasions - notably to adopt whole new Chapters to SOLAS or to adopt amendments proposed in response to a specific incident.

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. Flag States are responsible for ensuring that ships under their flag comply with its requirements, and a number of certificates are prescribed in the Convention as proof that this has been done. Control provisions also 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 - this procedure is known as port State control.The current 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 the survey of the various types of ships and the issuing of documents signifying that the ship meets the requirements of the Convention. The Chapter also includes 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. Requirements for watertight integrity and bilge pumping arrangements for passenger ships are also laid down as

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. The steering gear requirements of this Chapter are particularly important.

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 and vertical 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 or of access for fire-fighting purposes; ready availability of fire-extinguishing appliances; minimization of the possibility of ignition of flammable cargo vapour.

A new revised chapter II-2 was adopted in December 2000, entering into force on 1 July 2002.

Chapter III - Life-saving appliances and arrangements
A revised Chapter was adopted in 1996 and entered into force on 1 July 1998. The revisions took into account changes in technology since the Chapter was last revised in 1983. Under the 1996 revision, specific technical requirements were moved to a new International Life-Saving Appliance (LSA) Code, made mandatory under Regulation 34, which states that all life-saving appliances and arrangements shall comply with the applicable requirements of the LSA Code.

The Chapter entered into force on 1 July 1998 and applies to all ships built on or after 1 July 1998, with some new amendments to the previous Chapter also applying to ships built before that date.

The text of the 1996 Chapter takes into account technological changes, such as the development of marine evacuation systems: these systems involve the use of slides, similar to those installed on aircraft. The 1996 revision of Chapter III also reflects public concern over safety issues, raised by a series of major accidents in the 1980s and 1990s. Many of the passenger ship regulations have been made applicable to existing ships, and extra regulations were introduced specifically for ro-ro passenger ships.

Chapter IV - Radiocommunications
The Chapter was completely revised in 1988 to incorporate amendments to introduce the Global Maritime Distress and Safety System (GMDSS).

The amendments entered into force on 1 February 1992 with a phase-in period to 1 February 1999. By that date the Morse Code was phased out and all passenger ships and all cargo ships of 300 gross tonnage and upwards on international voyages are now required 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. Chapter IV of SOLAS was previously titled Radiotelegraphy and radiotelephony, reflecting the forms of radio communication available prior to the introduction of satellites.

Regulations in Chapter IV cover undertakings by contracting governments to provide radiocommunciation 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. This is in contrast to the Convention as a whole, which only applies to certain classes of ship engaged on international 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.

This Chapter also includes a general obligation for masters to proceed to the assistance of those in distress and for Contracting Governments to ensure that all ships shall be sufficiently and efficiently manned from a safety point of view.

A new revised chapter V was adopted in December 2000, entering into force on 1 July 2002. The new chapter makes mandatory the carriage of voyage data recorders (VDRs) and automatic ship identification systems (AIS) for certain ships.

Chapter VI - Carriage of Cargoes
The Chapter 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).

Before 1991, this Chapter only covered the carriage of grain - which due to its inherent capability to shift can have disastrous effects on a ship's stability if not stowed, trimmed and secured properly. The current Chapter requires cargo ships carrying grain to comply with the IMO International Grain Code.

Chapter VII - Carriage of dangerous goods
The regulations are contained in three parts:

Part A - Carriage of dangerous goods in packaged form or in solid form or in bulk - includes provisions for the classification, packing, marking, labelling and placarding, documentation and stowage of dangerous goods. Contracting Governments are required to issue instructions at the national level and the Chapter refers to International Maritime Dangerous Goods (IMDG) Code, developed by IMO, which is constantly updated to accommodate new dangerous goods and to supplement or revise existing provisions.

Part B covers Construction and equipment of ships carrying dangerous liquid chemicals in bulk and requires chemical tankers built after 1 July 1986 to comply with the International Bulk Chemical Code (IBC Code).

Part C covers Construction and equipment of ships carrying liquefied gases in bulk and gas carriers constructed after 1 July 1986 to comply with the requirements of the International Gas Carrier Code (IGC Code).

Part D includes special requirements for the carriage of packaged irradiated nuclear fuel, plutonium and high-level radioactive wastes on board ships and requires ships carrying such products to comply with the International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on Board Ships (INF Code).

From 1 January 2004, the chapter will require carriage of dangerous goods to be in compliance with the relevant provisions of the International Maritime Dangerous Goods Code (IMDG Code). This is due to amendments adopted by IMO in 2002, which are expected to enter into force on 1 January 2004.

The IMDG Code was first adopted by IMO in 1965 and has been kept up to date by regular amendments, including those needed to keep it in line with United Nations Recommendations on the Transport of Dangerous Goods which sets the basic requirements for all the transport modes

Chapter VIII - Nuclear ships
Gives basic requirements for nuclear-powered ships and is particularly concerned with radiation hazards. It refers to detailed and comprehensive Code of Safety for Nuclear Merchant Ships which was adopted by the IMO Assembly in 1981.

Chapter IX - Management for the Safe Operation of Ships
The Chapter 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").

The Chapter was adopted in May 1994 and entered into force on 1 July 1998.

Chapter X - Safety measures for high-speed craft
The Chapter makes mandatory the International Code of Safety for High-Speed Craft (HSC Code), which applies to high-speed craft built on or after 1 January 1996. The Chapter was adopted in May 1994 and entered into force on 1 January 1996.

A new HSC Code was adopted in December 2000 and it applies to ships built on or after 1 July 2002.

Chapter XI - Special measures to enhance maritime safety
The Chapter was adopted in May 1994 and entered into force on 1 January 1996. The Chapter 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 XII - Additional safety **measures for bulk carriers**
The Chapter was adopted in November 1997 and entered into force on 1 July 1999. It 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 also includes specific structural requirements for existing bulk carriers 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/m3 but below 1,780 kg/m3 include grains, such as wheat and rice, and timber.

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 both 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 1978 SOLAS Protocol made a number of important changes to Chapter I, including the introduction of unscheduled inspections and/or mandatory annual surveys and the strengthening of port State control requirements. Chapter II-1, Chapter II-2 and Chapter V were also improved. The main amendments included the following:

New crude oil carriers and product carriers of 20,000 dwt and above are required to be fitted with an inert gas system.

An inert gas system became mandatory for existing crude oil carriers of 70,000 dwt and above by 1 May 1983, and by 1 May 1985 for ships of 20,000-70,000 dwt.

In the case of crude oil carriers of 20-40,000 dwt there is provision for exemption by flag States where it is considered unreasonable or impracticable to fit an inert gas system and high-capacity fixed washing machines are not used. But an inert gas system is always required when crude oil washing is operated.

An inert gas system was required on existing product carriers from 1 May 1983 and by 1 May 1985 for ships of 40-70,000 dwt and down to 20,000 dwt which are fitted with high capacity washing machines.

In addition to requiring that all ships of 1,600 grt and above shall be fitted with radar, the Protocol requires that all ships of 10,000 grt and above have two radars, each capable of being operated independently.

All tankers of 10,000 grt and above shall have two remote steering gear control systems, each operable separately from the navigating bridge.

The main steering gear of new tankers of 10,000 grt and above shall comprise two or more identical power units, and shall be capable of operating the rudder with one or more power units.

The 1981 amendments
Adoption: 20 November 1981
Entry into force: 1 September 1984

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

In Chapter II-1, the provisions of resolution A.325(IX) Recommendation concerning regulations for machinery and electrical installations in passenger and cargo ships (adopted in November 1975) were incorporated and made mandatory. Changes to regulations 29 and 30 on steering gear introduced the concept of duplication of steering gear control systems in tankers. These measures were agreed taking into account concerns following the 1978 Amoco Cadiz disaster and relevant provisions in the 1978 SOLAS Protocol.

Chapter II-2 was re-arranged to take into account strengthened fire safety requirements for cargo

ships and passenger ships.

The revised Chapter II-2 incorporated the requirements of resolution A.327(IX) Recommendation concerning fire safety requirements for cargo ships, which includes 21 regulations based on the principles of: separation of accommodation spaces from the remainder of the ship by thermal and structural boundaries; protection of means of escape; early detection, containment or extinction of any fire; and restricted use of combustible materials. Other amendments to Chapter II-2 related to provisions for halogenated hydrocarbon extinguishing systems, special requirements for ships carrying dangerous goods, and a new regulation 62 on inert gas systems.

Some important changes were also made to Chapter V, including the addition of new requirements concerning the carriage of shipborne navigational equipment, covering such matters as gyro and magnetic compasses; the mandatory carriage of two radars and of automatic radar plotting aids in ships of 10,000 grt and above; echo-sounders; devices to indicate speed and distance; rudder angle indicators; propeller revolution indicators; rate of turn indicators; radio-direction finding apparatus; and equipment for homing on the radiotelephone distress frequency.

In addition, a few minor changes were made to Chapter III; seven regulations in Chapter IV were replaced, amended or added and a number of small changes were made to Chapter VII.

The 1983 amendments
Adoption: 17 June 1983
Entry into force: 1 July 1986

The most extensive changes involved Chapter III, which was completely rewritten. The Chapter in the 1974 Convention differed little from the texts which appeared in the 1960 and 1948 SOLAS Conventions and the amendments were designed not only to take into account the many technical advances which had taken place since then but also to expedite the evaluation and introduction of further improvements.

There were also a few minor changes to Chapter II-1 and some further changes to Chapter II-2 (including improvements to the 1981 amendments) designed particularly to increase the safety of bulk carriers and passenger ships. Some small changes were made to Chapter IV.

Amendments to Chapter VII extended its application to chemical tankers and liquefied gas carriers by making reference to two new Codes, the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) and the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code). Both apply to ships built on or after 1 July 1986.

The 1988 (April) amendments
Adoption: 21 April 1988
Entry into force: 22 October 1989

In March 1987 the car ferry **Herald of** Free **Enterprise** capsized shortly after leaving Zeebrugge in Belgium and sank with the loss of 193 lives. The United Kingdom proposed a series of measures designed to prevent a recurrence, the first package of which was adopted in April 1988.

They included new regulations 23-2 and 42-1 of Chapter II-1 intended to improve monitoring of doors and cargo areas and to improve emergency lighting. Because of the urgency, the Maritime Safety Committee agreed the amendments should come into force only 18 months after their adoption, using the "tacit acceptance" procedure.

The 1988 (October) amendments
Adoption: 28 October 1988
Entry into force: 29 April 1990

Some of these amendments also resulted from the **Herald of** Free **Enterprise** disaster and included details of how stability of passenger ships in a damaged condition should be determined and a requirement for all cargo loading doors to be locked before a ship leaves the berth.

The amendments also made it compulsory for passenger ships to have a lightweight survey at least every five years to ensure their stability has not been adversely affected by the accumulation of extra weight or any alterations to the superstructure.

Other amendments concerning the stability of passenger ships in the damaged condition were also adopted. These regulations had been in preparation before the Herald of Free Enterprise incident and their adoption was brought forward.

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

The Protocol introduces a new harmonized system of surveys and certification (HSSC) to harmonize with two other Conventions, Load Lines and MARPOL 73/78. The aim is to alleviate problems caused by the fact that as requirements in the three instruments vary, ships may be obliged to go into dry-dock for a survey required by one convention shortly after being surveyed in connection with another.

By enabling the required surveys to be carried out at the same time, the system is intended to reduce costs for shipowners and administrations alike.

The 1988 (GMDSS) amendments
Adoption: 11 November 1988
Entry into force: 1 February 1992

IMO had begun work on the Global Maritime Distress and Safety System (GMDSS) in the 1970s and its introduction marked the biggest change to maritime communications since the invention of radio.

The amendments which replaced the existing Chapter IV phased in the introduction of the GMDSS in stages between 1993 and 1 February 1999. The basic concept of the system 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 GMDSS makes great use of the satellite communications provided by Inmarsat but also uses terrestrial radio.

The equipment required by ships varies according to the sea area in which they operate - ships travelling to the high seas must carry more communications equipment than those which remain within reach of specified shore-based radio facilities. In addition to distress communications, the GMDSS also provides for the dissemination of general maritime safety information (such as navigational and meteorological warnings and urgent information to ships).

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

The main changes concern Chapter II-1 and II-2 of the Convention and deal with ships' construction and with fire protection, detection and extinction.

In Chapter II-1, one of the most important amendments is designed to reduce the number and size of openings in watertight bulkheads in passenger ships and to ensure that they are closed in the event of an emergency.

In Chapter II-2, improvements were made to regulations concerning fixed gas fire-extinguishing systems, smoke detection systems, arrangements for fuel and other oils, the location and separation of spaces and several other regulations.

The International Gas Carrier Code - which is mandatory under SOLAS - was also amended.

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

Important changes were made to the way in which the subdivision and stability of dry cargo ships is determined. They apply to ships of 100 metres or more in length built on or after 1 February 1992.

The amendments introduced a new part B-1 of Chapter II-1 containing subdivision and damage stability requirements for cargo ships based upon the so-called "probabilistic" concept of survival, which was originally developed through study of data relating to collisions collected by IMO.

This showed a pattern in accidents which could be used in improving the design of ships: most damage, for example, is sustained in the forward part of ships and it seemed logical, therefore, to

improve the standard of subdivision there rather than towards the stern. Because it is based on statistical evidence as to what actually happens when ships collide, the probabilistic concept provides a far more realistic scenario than the earlier "deterministic" method, whose principles regarding the subdivision of passenger ships are theoretical rather than practical in concept.

Amendments were also made to the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) and the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code).

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

Chapter VI (Carriage of grain) was completely revised to extend it to include other cargoes and it was retitled Carriage of cargoes. The text is shorter, but the Chapter is backed up by two new Codes. The International Grain Code is mandatory while the Code of Safe Practice for Cargo Stowage and Securing is recommended. The Chapter also refers to the Code of Safe Practice for Ships Carrying Timber Deck Cargoes and the Code of Safe Practice for Solid Bulk Cargoes.In Chapter II-2, fire safety requirements for passenger ships were improved and other changes were made to Chapter III and Chapter V.

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 were included in amendments to Chapter II-1. They were based on measures to improve the damage stability of new ro-ro passenger ships which came into force on 29 April 1990 but were slightly modified. The measures are phased in over an 11-year period beginning 1 October 1994.

A number of other amendments to SOLAS were adopted, including improved fire safety measures for existing passenger ships carrying more than 36 passengers, including mandatory requirements for smoke detection and alarm and sprinkler systems in accommodation and service spaces, stairway enclosures and corridors. Other improvements involved the provision of emergency lighting, general emergency alarm systems and other means of communication.

Some of these measures became applicable for existing ships on 1 October 1994. Those dealing with smoke detection and alarm systems and sprinklers applied from 1 October 1997. Requirements concerning stairways of steel-frame construction, for fire-extinguishing systems in machinery spaces and for fire doors are mandatory from 1 October 2000.

The April 1992 amendments are particularly important because they apply to existing ships. In the past, major changes to SOLAS had been restricted to new ships by so-called "grandfather clauses". The reason for this is that major changes involve expensive modifications to most ships, and there had previously been a reluctance to make such measures retroactive.

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

The most important amendments were concerned with the fire safety of new passenger ships. They made it mandatory for new ships (i.e. those built after 1 October 1994) carrying more than 36 passengers to be fitted with automatic sprinklers and a fire detection and alarm system centralized in a continuously-manned remote control station. Controls for the remote closing of fire doors and shutting down of ventilation fans must be located at the same place.

New standards for the fire integrity of bulkheads and decks were introduced and improvements made to standards for corridors and stairways used as a means of escape in case of fire. Emergency lighting which can be used by passengers to identify escape routes is required.

Other amendments affect the fire safety of ships carrying 36 passengers or less and also oil tanker fire safety.

Three Codes were also amended. Amendments to the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) and the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code) entered into force on 1 July 1994 and affect ships built after that date.

Amendments to the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH Code) entered into force on 1 July 1994. The Code is voluntary and

applies to existing ships.

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.

Accelerated amendment procedure
The Conference adopted a resolution on an accelerated amendment procedure to be used in exceptional circumstances. It states that a Conference of Contracting Governments can reduce the period after which an amendment to the technical Chapters of the Convention (which excludes the articles and Chapter I) is deemed to have been accepted from 12 months to six months, in exceptional circumstances.

Article VIII of SOLAS deals with the procedures for amending the Convention. The existing text says that proposed amendments have to be circulated to Governments at least six months prior to adoption and cannot enter into force until at least 18 months after adoption. This makes a total of 24 months, from circulation (six months), through adoption, to deemed acceptance date (12 months after adoption), to entry into force (six months after deemed acceptance date).

The resolution adopted by the conference states that the circulation period will remain at six months as will the period between the date on which the amendment is deemed to have been accepted and the date of entry into force. But the period between adoption and deemed acceptance date can be reduced to six months from 12. The total period between circulation of an amendment and its entry into force could thus be reduced from 24 months to 18 - in exceptional circumstances.

Chapter IX: Management for the Safe Operation of Ships
This new Chapter to the Convention was designed to make mandatory the International Safety Management Code, which was adopted by IMO in November 1993 (Assembly resolution A.741 (18)).

The amendments introducing the new Chapter IX entered into force under tacit acceptance on 1 July 1998. The Chapter applies to passenger ships and tankers from that date and to cargo ships and mobile drilling units of 500 gross tonnage and above from 1 July 2002.

The Code establishes safety management objectives which are:

- to provide for safe practices in ship operation and a safe working environment;

- to establish safeguards against all identified risks;

- to continuously improve safety management skills of personnel, including preparing for emergencies.

The Code requires a safety management system (SMS) to be established by "the Company", which is defined as the shipowner or any person, such as the manager or bareboat charterer, who has assumed responsibility for operating the ship.

The company is then required to establish and implement a policy for achieving these objectives. This includes providing the necessary resources and shore-based support. Every company is expected "to designate a person or persons ashore having direct access to the highest level of management".

The procedures required by the ISM Code should be documented and compiled in a Safety Management Manual, a copy of which should be kept on board.

Chapter X: Safety Measures for High Speed Craft
The new Chapter makes mandatory the International Code of Safety for High-Speed Craft, which was adopted by the Maritime Safety Committee (MSC) held concurrently with the Conference.

The Chapter entered into force under tacit acceptance on 1 January 1996 and applies to high-speed craft built on or after that date.

Chapter XI: Special Measures to Enhance Safety:

The new Chapter entered into force under tacit acceptance on 1 January 1996.

Regulation 1 states that organizations entrusted by an Administration with the responsibility for carrying out surveys and inspections shall comply with the guidelines adopted by IMO in resolution A.739(18) in November 1993.

Regulation 2 extends to bulk carriers aged five years and above, the enhanced programme of surveys applicable to tankers under MARPOL 73/78. The enhanced surveys should be carried out during the periodical, annual and intermediate surveys prescribed by the MARPOL and SOLAS Conventions.

The related guidelines on enhanced surveys pay special attention to corrosion. Coatings and tank corrosion prevention systems must be thoroughly checked and measurements must also be carried out to check the thickness of plates.

Regulation 3 provides that all passenger ships of 100 gross tonnage and above and all cargo ships of 300 gross tonnage and above shall be provided with an identification number conforming to the IMO ship identification number scheme, as adopted by resolution A.600(15) in 1987.

Regulation 4 makes it possible for port State control officers inspecting foreign ships to check operational requirements "when there are clear grounds for believing that the master or crew are not familiar with essential shipboard procedures relating to the safety of ships"

.Reference is made to resolution A.742(18), adopted in November 1993. The resolution acknowledges the need for port States to be able to monitor not only the way in which foreign ships comply with IMO standards but also to be able to assess "the ability of ships' crews in respect of operational requirements relevant to their duties, especially with regard to passenger ships and ships which may present a special hazard"

.The "clear grounds" referred to are defined in the annex to the resolution. They include such factors as operational shortcomings, cargo operations not being conducted properly, the involvement of the ship in incidents caused by operational mistakes, absence of an up-to-date muster list and indications that crew members may not be able to communicate with each other.

Port State control inspections are normally limited to checking certificates and documents. But if certificates are not valid or if there are clear grounds for believing that the condition of the ship or of its equipment, or its crew, does not substantially meet the requirements of a relevant instrument, a more detailed inspection may be carried out.

The operations and procedures selected for special attention include ascertaining that crew members are aware of their duties as indicated in the muster list; communications; fire and abandon ship drills; familiarity with the ship's damage control and fire control plans; bridge, cargo and machinery operations; and ability to understand manuals and other instructions.

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

Three new regulations were added to Chapter V

.Regulation 15.1 requires all tankers of 20,000 dwt and above built after 1 January 1996 to be fitted with an emergency towing arrangement to be fitted at both ends of the ship. Tankers built before that date had to be fitted with a similar arrangement not later than 1 January 1999.

Regulation 22 is aimed at improving navigation bridge visibility.

Regulation 8.1 makes mandatory the use of ship reporting systems approved by IMO. General principles for ship reporting systems were previously adopted by IMO in 1989 as a recommendation. The systems are used to provide, gather or exchange information through radio reports.

The regulation makes it mandatory for ships entering areas covered by ship reporting systems to report in to the coastal authorities giving details of sailing plans.

In Chapter II-2 improvements were made to regulation 15, which deals with fire protection arrangements for fuel oil, lubrication oil and other flammable oils.

Amendments to the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code) and the Code for the Construction and Equipment of Ships Carrying Liquefied Gases (Gas Carrier Code) relate to the filling limits for cargo tanks.

The December 1994 amendments
Adoption: 9 December 1994

Entry into force: 1 July 1996

In Chapter VI (Carriage of Cargoes), the Code of Safe Practice for Cargo Stowage and Securing is made mandatory. The Code was adopted as a recommendation in 1991. The amendments make it mandatory to provide the cargo information required by the Code and for cargo units, including containers, to be loaded, stowed and secured in accordance with a manual that must be at least equivalent to the Code.

The Code is also made mandatory under Chapter VII (Carriage of dangerous goods).

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

Regulation 8 of Chapter V was amended to make ships' routeing systems compulsory. Governments are responsible for submitting proposals for ships' routeing systems to IMO in accordance with amendments to the General Provisions on Ships' Routeing, which were adopted at the same time.

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

The conference adopted a series of amendments to SOLAS, based on proposals put forward by the Panel of Experts on the safety of roll on-roll off passenger ships which was established in December 1994 following the sinking of the ferry **Estonia.**

The most important changes relate to the stability of ro-ro passenger ships in Chapter II-1.

The SOLAS 90 damage stability standard, which had applied to all ro-ro passenger ships built since 1990, was extended to existing ships in accordance with an agreed phase-in programme. Ships that only meet 85% of the standard had to comply fully by 1 October 1998 and those meeting 97.5% or above, by 1 October 2005. (The SOLAS 90 standard refers to the damage stability standard in the 1988 (October) amendments to SOLAS adopted 28 October 1988 and entering into force on 29 April 1990.)

The conference also adopted a new regulation 8-2, containing special requirements for ro-ro passenger ships carrying 400 passengers or more. This is intended to phase out ships built to a one-compartment standard and ensure that they can survive without capsizing with two main compartments flooded following damage.

Amendments to other Chapters in the SOLAS Convention included changes to Chapter III, which deals with life saving appliances and arrangements, including the addition of a section requiring ro-ro passenger ships to be fitted with public address systems, a regulation providing improved requirements for life-saving appliances and arrangements and a requirement for all passenger ships to have full information on the details of passengers on board and requirements for the provision of a helicopter pick-up or landing area.

Other amendments were made to Chapter IV (radiocommunications); Chapter V (safety of navigation) - including a requirement that all ro-ro passenger ships should have an established working language - and Chapter VI (carriage of cargoes).

The conference also adopted a resolution which permits 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

A completely revised Chapter III on life-saving appliances and arrangements was adopted. The amendments take into account changes in technology since the Chapter was last re-written in 1983.

Many of the technical requirements were transferred to a new International Life-Saving Appliance (LSA) Code, applicable to all ships built on or after 1 July 1998. Some of the amendments apply to existing ships as well as new ones.

Other SOLAS Chapters were also amended.

In Chapter II-1, a new part A-1 dealing with the structure of ships was added. Regulation 3-1

requires ships to be designed, constructed and maintained in compliance with structural requirements of a recognized classification society or with applicable requirements by the Administration. Regulation 3-2 deals with corrosion prevention of seawater ballast tanks and other amendments to Chapter II-1 concern the stability of passenger and cargo ships in the damaged condition.

In Chapter VI, Regulation 7 was replaced by a new text dealing with the loading, unloading and stowage of bulk cargoes. It is intended to ensure that no excessive stress is placed on the ship's structure during such operations. The ship must be provided with a booklet giving advice on cargo handling operations and the master and terminal representative must agree on a plan to ensure that loading and unloading is carried out safely.

In Chapter XI, an amendment was made regarding authorization of recognized organizations.

The International Bulk Chemicals (IBC) and Bulk Chemicals (BCH) Codes were also amended. The IBC Code is mandatory under SOLAS and applies to ships carrying dangerous chemicals in bulk that were built after 1 July 1986. The BCH is recommended and applies to ships built before that date.

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

Chapter II-2 was considerably modified, with changes to the general introduction, Part B (fire safety measures for passenger ships), Part C (fire safety measures for cargo ships) and Part D (fire safety measures for tankers). The changes made mandatory a new International Code for Application of Fire Test Procedures intended to be used by Administrations when approving products for installation in ships flying their flag.

Amendments to Chapter II-1 included a requirement for ships to be fitted with a system to ensure that the equipment necessary for propulsion and steering are maintained or immediately restored in the case of loss of any one of the generators in service.

An amendment to Chapter V aims to ensure that the crew can gain safe access to the ship's bow, even in severe weather conditions. Amendments were also made to two regulations in Chapter VII relating to carriage of dangerous goods and the IBC Code was also amended.

The June 1997 amendments
Adoption: 4 June 1997
Entry into force: 1 July 1999 (Under tacit acceptance)

The amendments included a new Regulation 8.2 on Vessel Traffic Services (VTS) in Chapter V. VTS are traffic management systems, for example those used in busy straits. This Regulation sets out when VTS can be implemented. It says Vessel Traffic Services should be designed to contribute to the safety of life at sea, safety and efficiency of navigation and the protection of the marine environment, adjacent shore areas, worksites and offshore installations from possible adverse effects of maritime traffic.

Governments may establish VTS when, in their opinion, the volume of traffic or the degree of risk justifies such services. But no VTS should prejudice the "rights and duties of governments under international law" and a VTS may only be made mandatory in sea areas within a State's territorial waters.

In Chapter II-1, a new regulation 8.3 on "Special requirements for passenger ships, other than ro-ro passenger ships, carrying 400 persons or more" effectively makes these ships comply with the special requirements for ro-ro passenger ships in Regulation 8.2 which were adopted in November 1995. The special requirements are aimed at ensuring the ships can survive without capsizing with two main compartments flooded following damage.

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

The Conference adopted a Protocol adding a new Chapter XII to the Convention entitled Additional Safety Measures for Bulk Carriers.

The regulations state that all new bulk carriers 150 metres or more in length (built after 1 July 1999) carrying cargoes with a density of 1,000 kg/m3 and above should have sufficient strength to withstand flooding of any one cargo hold, taking into account dynamic effects resulting from presence of water in the hold and taking into account the recommendations adopted by IMO.

For existing ships (built before 1 July 1999) carrying bulk cargoes with a density of 1,780 kg/m3 and above, the transverse watertight bulkhead between the two foremost cargo holds and the double bottom of the foremost cargo hold should have sufficient strength to withstand flooding and the related dynamic effects in the foremost cargo hold.

Cargoes with a density of 1,780 kg/m3 and above (heavy cargoes) include iron ore, pig iron, steel, bauxite and cement. Lighter cargoes, but with a density of more than 1,000 kg/m3, include grains such as wheat and rice, and timber.

The amendments take into account a study into bulk carrier survivability carried out by the International Association of Classification Societies (IACS) at the request of IMO. IACS found that if a ship is flooded in the forward hold, the bulkhead between the two foremost holds may not be able to withstand the pressure that results from the sloshing mixture of cargo and water, especially if the ship is loaded in alternate holds with high density cargoes (such as iron ore). If the bulkhead between one hold and the next collapses, progressive flooding could rapidly occur throughout the length of the ship and the vessel would sink in a matter of minutes.

IACS concluded that the most vulnerable areas are the bulkhead between numbers one and two holds at the forward end of the vessel and the double bottom of the ship at this location. During special surveys of ships, particular attention should be paid to these areas and, where necessary, reinforcements should be carried out.

The criteria and formulae used to assess whether a ship currently meets the new requirements, for example in terms of the thickness of the steel used for bulkhead structures, or whether reinforcement is necessary, are laid out in IMO standards adopted by the 1997 Conference.

Under Chapter XII, surveyors can take into account restrictions on the cargo carried in considering the need for, and the extent of, strengthening of the transverse watertight bulkhead or double bottom. When restrictions on cargoes are imposed, the bulk carrier should be permanently marked with a solid triangle on its side shell. The date of application of the new Chapter to existing bulk carriers depends on their age. Bulk carriers which are 20 years old and over on 1 July 1999 have to comply by the date of the first intermediate or periodic survey after that date, whichever is sooner. Bulk carriers aged 15-20 years must comply by the first periodical survey after 1 July 1999, but not later than 1 July 2002. Bulk carriers less than 15 years old must comply by the date of the first periodical survey after the ship reaches 15 years of age, but not later than the date on which the ship reaches 17 years of age.

The May 1998 amendments
Adoption: 18 May 1998
Entry into force: 1 July 2002 (Under tacit acceptance)

Amendments were made to regulation 14 on Construction and initial testing of watertight bulkheads, etc., in passenger ships and cargo ships in Chapter II-1. Paragraph 3 is replaced to allow visual examination of welded connections, where filling with water or a hose test are not practicable.

In Chapter IV, the amendments included:

a new regulation 5-1 requiring Contracting Governments to ensure suitable arrangements are in place for registering Global Maritime Distress and Safety System (GMDSS) identities (including ship's call sign, Inmarsat identities) and making the information available 24 hours a day to Rescue Co-ordination Centres;

a new paragraph 9 to regulation 15 Maintenance requirements covering testing intervals for satellite emergency position indicating radio beacons (EPIRBs);

a new regulation 18 on Position updating requiring automatic provision of information regarding the ship's position where two-way communication equipment is capable of providing automatically the ship's position in the distress alert.

Amendments in Chapter VI to paragraph 6 of regulation 5 *Stowage and securing* make it clear that "all cargoes, other than solid and liquid bulk cargoes" should be loaded, stowed and secured in accordance with the Cargo Securing Manual. A similar amendment was adopted for Regulation 6 of Chapter VII, also covering Stowage and securing.

The May 1999 amendments
Adoption: 27 May 1999
Entry into force: 1 January 2001 (Under tacit acceptance)

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

The INF Code sets out how the material covered by the Code should be carried, including specifications for ships. The material covered by the code includes:

- *Irradiated nuclear fuel* - material containing uranium, thorium and/or plutonium isotopes which has been used to maintain a self-sustaining nuclear chain reaction.

- *Plutonium* - the resultant mixture of isotopes of that material extracted from irradiated nuclear fuel from reprocessing

- *High-level radioactive wastes* - liquid wastes resulting from the operation of the first stage extraction system or the concentrated wastes from subsequent extraction stages, in a facility for reprocessing irradiated fuel, or solids into which such liquid wastes have been converted.

The INF Code applies to all ships regardless of the date of construction and size, including cargo ships of less than 500 gross tonnage, engaged in the carriage of INF cargo. The INF Code does not apply to warships, naval auxiliary or other ships used only on government non-commercial service, although Administrations are expected to ensure such ships are in compliance with the Code.

Specific regulations in the Code cover a number of issues, including: damage stability, fire protection, temperature control of cargo spaces, structural consideration, cargo securing arrangements, electrical supplies, radiological protection equipment and management, training and shipboard emergency plans.

Ships carrying INF cargo are assigned to one of three classes, depending on the total radioactivity of INF cargo which is carried on board, and regulations vary slightly according to the Class:

Class INF 1 ship - Ships which are certified to carry INF cargo with an aggregate activity less than 4,000 TBq (TeraBecquerel - measurement of radioactivity).

Class INF 2 ship - Ships which are certified to carry irradiated nuclear fuel or high-level radioactive wastes with an aggregate activity less than 2 x 106 TBq and ships which are certified to carry plutonium with an aggregate activity less than 2 x 105 TBq.

Class INF 3 ship - Ships which are certified to carry irradiated nuclear fuel or high-level radioactive wastes and ships which are certified to carry plutonium with no restriction of the maximum aggregate activity of the materials.

The INF Code was first adopted as a recommendatory Code by the eighteenth session of the Assembly on 4 November 1993 (resolution A.748(18)). The twentieth session of the Assembly adopted amendments to the INF Code to include specific requirements for shipboard emergency plans and notification in the event of an incident (resolution A.853(20), adopted on 27 November 1997).

The Maritime Safety Committee also adopted a redrafted text of the INF Code incorporating amendments reflecting its mandatory nature.

The May 2000 amendment
Adoption: 26 May 2000
Entry into force: 1 January 2002 (Under tacit acceptance)

SOLAS Chapter III, regulation 28.2 for helicopter landing areas is amended to require a helicopter landing area **only for ro-ro passenger ships**. Regulation 28.1 of SOLAS Chapter III requires all ro-ro passenger ships to be provided with a helicopter pick-up area and existing ro-ro passenger ships were required to comply with this regulation not later than the first periodical survey after 1 July 1997.

The requirement for a helicopter landing area for all passenger ships of 130 metres in length and upwards was deferred to 1 July 1999 but it was decided to amend the regulation to make this requirement applicable to ro-ro passenger ships only.

The December 2000 amendments
Adoption: 6 December 2000
Entry into force: 1 July 2002 (Under tacit acceptance)

A number of amendments were adopted.

A revised SOLAS **chapter V (Safety of Navigation)** brings in a new mandatory requirement for voyage data recorders voyage data recorders (VDRs) to assist in accident investigations. Regulation 20 requires the following ships to fit VDRs:

- passenger ships constructed on or after 1 July 2002;

- ro-ro passenger ships constructed before 1 July 2002 not later than the first survey on or after 1 July 2002

- passenger ships other than ro-ro passenger ships constructed before 1 July 2002 not later than 1 January 2004; and·

- ships, other than passenger ships, of 3,000 gross tonnage and upwards constructed on or after 1 July 2002.

The new chapter also requires automatic identification systems (AIS), capable of providing information about the ship to other ships and to coastal authorities automatically, to be fitted aboard all ships of 300 gross tonnage and upwards engaged on international voyages, cargo ships of 500 gross tonnage and upwards not engaged on international voyages and passenger ships irrespective of size built on or after 1 July 2002.

It also applies to ships engaged on international voyages constructed before 1 July 2002, according to the following timetable:

- passenger ships, not later than 1 July 2003;

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

- ships, other than passenger ships and tankers, of 50,000 gross tonnage and upwards, not later than 1 July 2004;

- ships, other than passenger ships and tankers, of 10,000 gross tonnage and upwards but less than 50,000 gross tonnage, not later than 1 July 2005;

- ships, other than passenger ships and tankers, of 3,000 gross tonnage and upwards but less than 10,000 gross tonnage, not later than 1 July 2006.

- ships, other than passenger ships and tankers, of 300 gross tonnage and upwards but less than 3,000 gross tonnage, not later than 1 July 2007.

Note: the phase-in schedule for AIS on ships 300 gross tonnage and upwards was amended by the 2002 amendments to a final date of 2004 (see below).

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

A revised **SOLAS chapter II-2 (Construction, - Fire protection, fire detection and fire extinction)** as well as a new **International Code for Fire** Safety **Systems (FSS Code)** were adopted. The revised chapter is intended to be clear, concise and user-friendly, incorporating the substantial changes introduced in recent years following a number of serious fire casualties. The revised chapter includes seven parts, each including requirements applicable to all or specified ship types, while the Fire Safety Systems (FSS) Code, which is made mandatory under the new chapter, includes detailed specifications for fire safety systems in 15 Chapters.

A new regulation in SOLAS Chapter II-1 (Construction - Structure, subdivision and stability, machinery and electrical installations) **prohibits the new installation of materials which contain asbestos on all ships.** The new regulation 3-5 is included in SOLAS Chapter II-1 (Construction - Structure, Subdivision and stability, machinery and electrical installations.

Amendments to the **1988 SOLAS Protocol** include amendments to reflect the changes to SOLAS chapter V, such as the details of navigational systems and equipment referred to in the records of equipment attached to certificates.

Amendments to the **International Code for the Application of Fire** Test **Procedures (FTP Code)** add new parts 10 and 11 to annex 1 on Test for fire-restricting material for high-speed craft and test for fire-resisting divisions of high-speed craft.

Amendments to the International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk **(IBC Code)** and the Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk **(BCH Code)** relate to cargo hose requirements, protection of personnel and carriage of carbon disulphide. Entry into force 1 July 2002 under tacit acceptance.

Amendments to the International Safety Management Code **(ISM Code)** include the replacement of Chapter 13 Certification, verification and control with chapters 13 Certification; and adding of chapters 14 Interim Certification; 15 Forms of Certificate; and 16 Verification; as well as a new

appendix giving forms of documents and certificates.

Amendments to the Code for the Construction and equipment of ships carrying dangerous chemicals in bulk **(BCH Code)** relate to ship's cargo hoses, tank vent systems, safety equipment, operational requirements; and amendments to the Code for the construction and equipment of ships carrying liquefied gases in bulk **(GC Code)** relate to ship's cargo hoses, personnel protection and operating requirements.

The June 2001 Amendments
Adoption: June 2001
Entry into force: 1 January 2003 (Under tacit acceptance)

Amendments to Chapter VII - Carriage of Dangerous Goods - and to the International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on Board Ships (INF Code) to align them with Amendment 30 to the International Maritime Dangerous Goods (IMDG) Code.

Also amendments to the International Code of Safety for High-Speed Craft (1994 HSC Code) to bring the provisions for navigational equipment of the 1994 HSC Code in line with the relevant provisions of the 2000 HSC Code (which enters into force on 1 July 2002 for ships built after that date). In particular the amendments relate to carriage of voyage data recorders and carriage of automatic identification systems (AIS).

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

The amendments to chapter SOLAS VII (Carriage of Dangerous Goods) make the International Maritime Dangerous Goods Code (IMDG Code) mandatory. The MSC also adopted the IMDG Code in a mandatory form.

However, the provisions of the following parts of the Code will remain recommendatory:
· chapter 1.3 (Training);
· chapter 2.1 (Explosives, Introductory Notes 1 to 4 only);
· chapter 2.3, section 2.3.3 (Determination of flashpoint only);
· chapter 3.2 (columns 15 and 17 of the Dangerous Goods List only);
· chapter 3.5 (Transport schedule for Class 7 radioactive material only),
· chapter 5.4, section 5.4.5 (Multimodal dangerous goods form), insofar as layout of the form is concerned;
· chapter 7.3 (Special requirements in the event of an incident and fire precautions involving dangerous goods only).

In practice, this means that from the legal point of view, the whole of the IMDG Code is made mandatory, but provisions of recommendatory nature are editorially expressed in the Code (e.g. using the word "should" instead of "shall") to clarify their status.

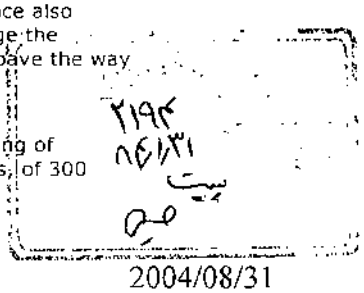
The mandatory IMDG Code incorporates certain changes relating to specific products, as well as relevant elements of the amendments to the UN Recommendations on the Transport of Dangerous Goods, Model Regulations adopted by the UN Committee of Experts on the Transport of Dangerous Goods at its twenty-first session in Geneva from 4 to 13 December 2000.

Also, amendments to the 1978 SOLAS Protocol, make changes to the Record of Equipment for the Passenger Ship Safety Certificate (Form P); Record of Equipment for the Cargo Ship Safety Radio Certificate (Form R); and Record of Equipment for the Cargo Ship Safety Certificate (Form C).

The December 2002 amendments (Conference) - Measures to enhance maritime security
Adoption: 13 December 2002
Entry into force: 1 July 2004

The amendments to the 1974 SOLAS Convention were adopted by a Diplomatic Conference on Maritime Security and are aimed at enhancing maritime security on board ships and at ship/port interface areas. Among other things, these amendments create a new SOLAS chapter dealing specifically with maritime security, which in turn contains the mandatory requirement for ships to comply with the the new International Ship and Port Facility Security Code (ISPS Code). The Code contains detailed security-related requirements for Governments, port authorities and shipping companies in a mandatory section (Part A), together with a series of guidelines about how to meet these requirements in a second, non-mandatory section (Part B). The Conference also adopted a series of resolutions designed to add weight to the amendments, encourage the application of the measures to ships and port facilities not covered by the Code and pave the way for future work on the subject..

Modifications to Chapter V (Safety of Navigation) contain a new timetable for the fitting of Automatic Information Systems (AIS). Ships, other than passenger ships and tankers, of 300



gross tonnage and upwards but less than 50,000 gross tonnage, will be required to fit AIS not later than the first safety equipment survey after 1 July 2004 or by 31 December 2004, whichever occurs earlier. Ships fitted with AIS shall maintain AIS in operation at all times except where international agreements, rules or standards provide for the protection of navigational information."

The existing SOLAS Chapter XI (Special measures to enhance maritime safety) has been re-numbered as Chapter XI-1. Regulation XI-1/3 is modified to require ships' identification numbers to be permanently marked in a visible place either on the ship's hull or superstructure. Passenger ships should carry the marking on a horizontal surface visible from the air. Ships should also be marked with their ID numbers internally.

And a new regulation XI-1/5 requires ships to be issued with a Continuous Synopsis Record (CSR) which is intended to provide an on-board record of the history of the ship. The CSR shall be issued by the Administration and shall contain information such as the name of the ship and of the State whose flag the ship is entitled to fly, the date on which the ship was registered with that State, the ship's identification number, the port at which the ship is registered and the name of the registered owner(s) and their registered address. Any changes shall be recorded in the CSR so as to provide updated and current information together with the history of the changes.

New Chapter XI-2 (Special measures to enhance maritime security)
A brand-new Chapter XI-2 (Special measures to enhance maritime security) is added after the renumbered Chapter XI-1.

This chapter applies to passenger ships and cargo ships of 500 gross tonnage and upwards, including high speed craft, mobile offshore drilling units and port facilities serving such ships engaged on international voyages.

Regulation XI-2/3 of the new chapter enshrines the International Ship and Port Facilities Security Code (ISPS Code). Part A of this Code will become mandatory and part B contains guidance as to how best to comply with the mandatory requirements.

The regulation requires Administrations to set security levels and ensure the provision of security level information to ships entitled to fly their flag. Prior to entering a port, or whilst in a port, within the territory of a Contracting Government, a ship shall comply with the requirements for the security level set by that Contracting Government, if that security level is higher than the security level set by the Administration for that ship.

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. It says he shall not be constrained by the Company, the charterer or any other person in this respect.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. It says he shall not be constrained by the Company, the charterer or any other person in this respect.

Regulation XI-2/5 requires all ships to be provided with a ship security alert system, according to a strict timetable that will see most vessels fitted by 2004 and the remainder by 2006. When activated the ship security alert system shall initiate and transmit a ship-to-shore security alert to a competent authority designated by the Administration, identifying the ship, its location and indicating that the security of the ship is under threat or it has been compromised. The system will not raise any alarm on-board the ship. The ship security alert system shall be capable of being activated from the navigation bridge and in at least one other location.

Regulation XI-2/6 covers requirements for port facilities, providing among other things for Contracting Governments to ensure that port facility security assessments are carried out and that port facility security plans are developed, implemented and reviewed in accordance with the ISPS Code.

Other regulations in this chapter cover the provision of information to IMO, the control of ships in port, (including measures such as the delay, detention, restriction of operations including movement within the port, or expulsion of a ship from port), and the specific responsibility of Companies.

The December 2002 amendments (by the expanded MSC)
Adoption: 12 December 2002
Entry into force: 1 July 2004

Chapter XII (Additional Safety Measures for Bulk Carriers) -

- New regulation XII/12 on Hold, ballast and dry space water level detectors require the fitting of high level alarms and level monitoring systems on all bulk carriers, in order to detect water ingress. The regulation requires the fitting of such alarms on all bulk carriers

regardless of their date of construction.
- New regulation XII/13 on Availability of pumping systems would require the means for draining and pumping dry space bilges and ballast tanks any part of which is located forward of the collision bulkhead to be capable of being brought into operation from a readily accessible enclosed space.

SOLAS chapter II-1 (Construction - structure, subdivision and stability, machinery and electrical installations)-

- In Part B (Subdivision and stability), new regulation II-1/3-6 Access to spaces in cargo areas of oil tankers and bulk carriers is intended to ensure that vessels can be properly inspected throughout their lifespan, by designing and building the ship to provide suitable means for access. Associated Technical provisions for means of access for inspections are mandatory under the regulation. Without adequate access, the structural condition of the vessel can deteriorate undetected and major structural failure can arise. The regulation requires each space within the cargo area to be provided with an appropriate means of access to enable, throughout the life of a ship, overall and close-up inspections and thickness measurements of the ship's structures to be carried out by the Administration, the Company, and the ship's personnel and others as necessary.
- In Part C (Machinery Installation), new paragraph added to regulation 31 - Machinery control, to require automation systems to be designed in a manner which ensures that threshold warning of impending or imminent slowdown or shutdown of the propulsion system is given to the officer in charge of the navigational watch in time to assess navigational circumstances in an emergency.

Chapter II-2 (Fire protection, fire detection and fire extinction) -

- The amendments concern references to the IMDG Code and reflect amendments to SOLAS chapter VII (Carriage of Dangerous Goods) adopted in May 2002 which make the International Maritime Dangerous Goods Code (IMDG Code) mandatory.

Chapter III - Life-saving appliances and arrangements -

- The amendments to Regulation 26 - Additional requirements for ro-ro passenger ships, requires liferafts carried on ro-ro passenger ships to be fitted with a radar transponder in the ratio of one transponder for every four liferafts. The regulation is made applicable to existing ships as well as new ships.

Also adopted, amendments to the International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on board Ships (**INF Code**) - The amendments in the sections on definitions and application reflect amendments to SOLAS chapter VII (Carriage of Dangerous Goods) adopted in May 2002 which make the IMDG Code mandatory.

The June 2003 amendments
Adoption: June 2003
Entry into force: 1 July 2006

Chapter V - Safety **of Navigation**

Amendments to SOLAS regulations V/2 Definitions and V/22 Navigation Bridge Visibility add the definition of "length" to regulation V/2 and a consequential editorial change is made to regulation V/22. The definition states that "length of a ship means its length overall".

Amendments to SOLAS regulation V/28 on Records of navigational activities add a new paragraph on daily reporting. The amendment will require all ships of 500 gross tonnage and above, engaged 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 external or internal conditions that are affecting the ship's voyage or the normal safe operation of the ship. The aim of the amendments is to address the responsibilities of ship operators to provide information of benefit to those responsible for mounting rescue operations.

The May 2004 amendments
Adoption: May 2004
Entry into force: 1 July 2006

Persons in distress at sea
Amendments to chapter V (Safety *of Navigation*) - to add a definition of <a href="http