

A DESCRIPTION OF MARITIME SAFETY IN SOUTH AFRICA

By

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Declaration

I, the undersigned, hereby declare that the work contained in this assignment is my own work and that I have not previously in its entirety or in part submitted it at any university for a degree.

Summary

The increasing financial pressures exerted on ship owners in recent years due to cost inflation, overtonnage and low freight rates in many sectors, have forced ship owners to increase cost savings and contain costs. That induced certain shipowners to operate substandard ships. The cost advantages in substandard ships are through failing to maintain safety equipment and procedures, employing cheap and untrained crews, repairing only essential equipment on breakdown and register under flags that do not comply with all the international regulatory, economic and social requirements for ships. Those ships undercut the true costs of operating a ship and eventually drive the obedient shipowner out of the market at the cost of safe and clean seas.

Because of the complex international environment in which shipping operates an international regulatory framework is needed to ensure safety at sea. This assignment gives a layout of that framework, which is co-ordinated by the International Maritime Organisation (IMO), as well as the ways in which it is implemented and regulated in individual countries, with reference to South Africa. The functioning of the South African Maritime Safety Agency (SAMSA), which has been established on 1 April 1998, is also discussed. The benefit of safe ports is highlighted and also the cost savings in marine insurance if ships are classified as safe. A brief description of the navigation instruments that SAMSA use to assist in achieving maritime safety is given.

Finally, the diseconomies of substandard ships are debated against quality ships for cleaner seas.

Opsomming

Die toenemende finansiële druk op skeepseienaars, as gevolg van koste inflasie, oortonnemaat en lae vragtariewe in verskeie sektore, het hulle gedwing om oor die laaste aantal jare hul kostes te beperk. Gedwonge kostebesparings gee aanleiding daartoe dat sekere skeepseienaars onveilige skepe bedryf. Kostevoordele in onveilige skepe word bereik deur veiligheidstoerusting en –prosedures nie in stand te hou nie, goedkoop en onopgeleide bemanning aan te stel, slegs die nodige herstelwerk aan toerusting te doen en deur te registreer onder vlag wat nie voldoen aan internasionale regulering, ekonomiese en sosiale vereistes vir skepe nie. Eienaars van sulke skepe, onderskruip die ware bedryfskoste van 'n skip en uiteindelik dryf dit die wetsgetroue skeepseienaars uit die mark ten koste van 'n veilige en skoon see.

As gevolg van die komplekse internasionale omgewing waarin skeepvaart funksioneer, word 'n internasionale reguleringsraamwerk benodig om veiligheid ter see te verseker. Hierdie werkstuk gee 'n uitleg van daardie raamwerk, wat gekoördineer word deur die Internasionale Maritieme Organisasie (IMO), asook die manier waarop dit geïmplementeer en gereguleer word in individuele lande met verwysing tot Suid-Afrika. Die funksionering van die Suid-Afrikaanse Maritieme Veiligheids Agentskap (SAMSA), wat tot stand gebring is op 1 April 1998, word bespreek. Die voordele van veilige hawens word uitgelig, sowel as die besparings in maritieme versekeringskoste indien 'n skip as veilig geklassifiseer word. 'n Kort beskrywing van navigasie-instrumente wat SAMSA gebruik om maritieme veiligheid te bewerkstellig, word kortliks bespreek.

Ten slotte, die dis-ekonomie van onveilige skepe word gedebateer teenoor die kwaliteit van skepe vir 'n skoner see.

Dedication

I should like to dedicate this assignment to my wife Cécile, for all her support and assistance during the last two years.

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List of Abbreviations and Acronyms

BLG	Bulk Liquids and Gases
CDS	Chief Directorate Shipping
COMSAR	Radiocommunications and Search and Rescue
DoT	Department of Transport, South Africa
DSC	Carriage of Dangerous Goods, Solid Cargoes and Containers
EEZ	Exclusive Economic Zone
FSI	Flag State Implementation
GRT	Gross Register Tonnage
IGCO	Inter-Governmental Consultative Organisation
ILO	International Labour Organisation
ILU	Institute of London Underwriters
IMCO	Inter-Governmental Maritime Consultative Organisation
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organisation
INMARSAT	International Maritime Satellite Organisation
ISM Code	International Safety Management Code
ITF	International Transport Workers' Federation
IUA	International Underwriting Association
MARPOL	Marine Pollution Convention
MEPC	Marine Environment Protection Committee
MSC	Maritime Safety Committee
MSI	Maritime Safety Information
OBO	Oil Bulk and Ore Carrier
OECD	Organisation of Economic Co-operation and Development
OILPOL	Oil Pollution Convention
SAMSA	South African Maritime Safety Authority
SMS	Safety Management System
SOLAS	Safety of Life at Sea Convention
STCW	International Convention of Standards of Training, Certification and Watchkeeping for Seafarers
ULCC	Ultra Large Crude Carrier

CHAPTER 1

1.1 INTRODUCTION

Shipping is perhaps the most international of all the world's great industries – and possibly one of the most dangerous, as Joseph Conrad stated in *The Mirror of the Sea*;

“For all that has been said... the sea has never been friendly to man. At most it has been the accomplice of human restlessness, and playing the part of dangerous abettor of worldwide ambitions. Faithful to no race after the manner of the kindly earth, receiving no impress from valour and toil and self sacrifice, recognising no finality of dominion, the sea has never adopted the cause of its masters like those lands where the victorious nations of mankind have taken root, rocking their cradles and setting up gravestones. He – man or people – who putting his trust in the friendship of the sea, neglects the strength and cunning of his right hand, is a fool.”

The dangers of the sea faced by the ships and their operations are still the same as those faced many years ago. However, the environment in which ships operate over the last 50 years has become more competitive and the need to be cost efficient with the globalisation of markets has become an essential survival instrument. That has led to some shipowners operating their ships on substandard quality to save costs. *“Increasing financial pressures, exerted on ship owners in recent years due to cost inflation and overtonnaging in many sectors, have forced more and more ship owners to increased cost savings and expenditure cut-backs on safety-related maintenance cost items with the risk of violating international rules and standards.”* (Haralambides, 1998:16).

The cost advantages are in some cases generated through failure to maintain safety equipment and procedures, employing cheap and untrained crew, repairing only essential equipment on breakdowns, avoiding pollution regulations, contaminating and letting the P&I Club members pay. Such behaviours increase the external costs to

and letting the P&I Club members pay. Such behaviours increase the external costs to shipowners who are obeying the rules and operate in an economically sound environment. In a study done by the Organisation for Economic Co-operation and Development (OECD), it has been concluded that the cost advantage of a substandard ship over the minimum legal standards are 17%, and 36% over a good operating ship. Under such market circumstances it is undoubted that the good ships will be priced out of the market at the cost of safe and clean seas. Many debates are conducted on the extend to which shipowners are prepared to pay for cleaner seas, the benefits and cost of that, as well as the regulatory regimes needed to be put in place to protect good shipowners from substandard shipowners.

The South African Government, like governments of many other countries, embarked on this route to protect the seas and the obedient shipowner. The South African Maritime Safety Agency (SAMSA) was established on 1 April 1998 to achieve this objective.

The International Maritime Organisation (IMO), a specialised agency of the United Nations, of which South African Government is a member, is responsible for developing measures and international treaties to improve the safety of international shipping and to combat the utilization of substandard ships. It is involved in the setting of international safety standards, as well as, looking at legal aspects, including liability and compensation issues and the facilitation of international maritime traffic. The main technical work is carried out by the Maritime Safety, Marine Environment Protection, Legal, Technical, Co-operation and the Facilitation Committees and a number of subcommittees to assist countries in the implementation of safety legislation (<http://imo.org/imo/introd.htm>). The adoption of maritime legislation is still IMO's best-known responsibility. Around 40 conventions and protocols and well over 700 codes and recommendations concerning maritime safety, the prevention of pollution and related matters have been adopted by the Organisation and most of them have been amended on several occasions to ensure that they are kept up to date with changes taking place in world shipping.

The IMO has developed a technical co-operation programme, which is designed to assist member Governments that lack the technical knowledge and resources that are needed to operate ships under a maritime safety regime. (<http://www.org/imo/intro.htm>)

1.2 MARITIME SAFETY

Maritime safety involves the practice of sound shipping business practices, understanding of the shipping industry, as well as the environmental, social and financial impact of shipping, competency in the implementation of rules and regulations, and the formulation of regulations through IMO and other contracting governments as the need arises, with partnerships between governments, safety organisations, service providers and shipping operators.

Maritime safety thus is about international rules and regulations, the economics of shipping and being responsible in terms of people and the environment and the actions of shipowners and governments. Safety problems are often experienced with people, the vessel and the environment.

1) Vessel:

A good quality ship is designed and built according to approved classification society standards and dependent on up-to-date maintenance. A well-maintained quality-built ship is cost efficient in the long term, but poor maintenance makes for substandard, unsafe ships. Other than poor design, the common denominator of all engineering problems on board ships is the lack of maintenance. Accidents can be attributed to a ship's condition and not always its age. It is because of this that classification societies use certain criteria for classifying a ship according to its condition, to be used as a guideline by ship operators, and in some cases, insurers, to determine the safety standard of a vessel. Classification societies will be discussed in full in chapter three.

2) People:

Statistics indicate that many accidents are caused through human error, whether we are talking about the home, the office or ships at sea. But all too often we regard human error as something that is inevitable. This is the wrong approach. Accidents do not just happen, they are caused and they are caused by people making mistakes. If we can correct this, then we can reduce accidents and save lives and property.

O'Neil (1997:22) is of the opinion that this may appear to be obvious enough, but unfortunately, all too often, the response to an accident has been to change technical requirements. These changes have sometimes had little relation to the cause of the accident and therefore have done nothing to prevent it being repeated.

The other natural reaction to an accident is to look for someone to blame. The danger in this is that personalising the responsibility might result in the underlying causes being missed or ignored. There have been, for example, many cases where an accident happened because somebody fell asleep. It is a simple matter to pile all the blame on that one individual. But perhaps we should also ask why that person fell asleep? Was it laziness, stress or fatigue? And if it was fatigue, what caused it? And why did the company that operate' the ship allow it to be navigated by someone who was physically and mentally unfit at the time to do the job properly?

The human factor problem cannot be solved by adding more regulations. It requires a change of attitude, the adoption of a culture which puts safety at the top of its list of priorities. For two decades now the IMO has been emphasising that more should be done to ensure that existing regulations are properly implemented. This is where people come in, because it is people who can make this happen.

The IMO has devoted more and more attention to achieving the safe management of seas through focussing on the human element. Steps were taken to improve the way Governments implement IMO standards on ships under their flag and have

encouraged the establishment of regional agreements for carrying out ship inspections by Port States. Attention now is focused on two initiatives in particular:

International Safety Management Code

This Code was developed by the IMO to ensure that shipping companies around the world regard safety seriously (Hare, *Georgia Journal: Volume 26, Issue 3*). Amongst other things, the Code requires that they develop a special safety management plan and appoint a senior official to be responsible for its implementation. This could involve major changes to the structure and organisation of shipping companies and the IMO believes that it will result in major improvements to the safety of shipping. The ISM Code is mandatory and will apply to every ship in the world. Companies, who do not have the proper certification, as prescribed in the Code, would be acting in violation of the Convention for the Safety of Life at Sea and could find themselves out of business because their ships will be denied entry into ports around the world.

The 1995 amendments to the Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW)

This became operative on February 1, 1998 and is intended to raise the quality of the skills of the seafarers that operate the world's ships through better training. It will lead to improved efficiencies and also enhance their safety. And, like the ISM Code, the amendments cannot be avoided because they are mandatory (<http://www.org.imo.htm>).

These two initiatives, the ISM Code and the revision of the STCW Convention are both concerned with people. It is the managers of shipping companies who are best placed to make ships safer. The Code will guide them in doing so. It is the officers and crews who operate those ships who have to carry out management decisions and are often the first to suffer if something goes wrong. The revised Convention will provide the framework to ensure that they are appropriately trained and possess the skills to do the job successfully.

1.3 GOAL OF THIS ASSIGNMENT

The goal of this assignment is to theorise on the aspects of importance related to maritime safety. The issues to be dealt with are: (a) the importance of international regulations and the implementation of these regulations; and (b) the various forms of regulation and the enforcement of international regulations through conventions.

The situation in South Africa regarding maritime safety will be discussed in line with international practices. The IMO conventions that South Africa has accepted and those enforced by law will also be discussed. The work of the IMO and the regulations formulated by the IMO that South Africa has ratified and enforced by law, will be discussed to give an overall view of the current situation.

The intention of this is to provide an understanding of maritime safety and why the concept is so important to the lawmakers, shipowners and operators and other users in the maritime environment. The importance of maritime safety to financiers, P&I Clubs and Port Authorities will also be mentioned.

1.4 LAYOUT

This assignment is a literature study on maritime safety and the international and domestic frameworks that regulate the shipping industry. The fact that human error plays a part in attaining maritime safety and the possible ways to reduce such error will be discussed.

In chapter two the establishment, function and costs of the IMO will be discussed, as well as the relevant conventions and regulations which are implemented and enforced. It also deals with the new ISM Code that is compulsory to all maritime users.

In chapter three the regulatory regimes in the maritime environment are discussed and in chapter four a layout of the establishment and functioning of the South African Maritime Safety Agency will be given. Comparisons will be made with other Safety Authorities in other countries.

Safety in the ports is also important and will be dealt with in chapter five, with reference to the South African Port environment.

Chapter six describes the instruments used to accomplish maritime safety and chapter seven deals with the important role of marine insurance and how that will help the international community to reach an acceptable level of maritime safety.

In chapter eight a conclusion will be reached on the benefits and costs of safer ships and cleaner seas, and in the last chapter a conclusion will be reached on maritime safety.

CHAPTER 2

2.1 THE ESTABLISHMENT OF THE IMO

Several countries proposed that a permanent international body should be established to promote maritime safety more effectively, but it was not until the establishment of the United Nations itself that these hopes were realised. The Inter-Governmental Consultative Organisation (IGCO) was established in 1948 with the aim to promote maritime safety. (The name was changed in 1982 to the International Maritime Organisation or IMO). The IGCO became operative in 1958 and the first meeting took place in 1959 to adopt the new version of the International Convention for the Safety of Life at Sea (SOLAS), the most important of all treaties dealing with maritime safety. By the time the IGCO came into existence in 1948, several important international conventions had already been developed, including the International Convention for the Safety of Life at Sea of 1948, the International Convention for the Prevention of Pollution of the Sea by Oil of 1954 and treaties dealing with load lines and the prevention of collisions at sea, but never adopted by and enforced by an international organisation. The SOLAS Convention in its successive forms is generally regarded as the most important of all international treaties concerning the safety of merchant ships and, in more simple language, safety of any life at sea. The first version was adopted in 1914, the second in 1929 and the third in 1948.

The 1960 SOLAS Convention was the first major task for IMO after its creation and it represented a considerable step forward in modernising regulations and in keeping pace with technical developments in the shipping industry. This was achieved in 1960 and the IMO turned its attention to such matters as the facilitation of international maritime traffic, load lines and the carriage of dangerous goods. (<http://www.imo.org/imo/intro.htm>)

2.2 THE WORKING OF THE IMO

The Organisation consists of an Assembly, a Council and five main Committees: the Maritime Safety Committee; Marine Environment Protection Committee; Legal Committee, Technical Co-operation Committee; and a Facilitation Committee. (<http://www.imo.org/imo.orgstr.htm>)

The Assembly

This is the Governing Body of the Organisation. It consists of all Member States, and it meets once every two years in regular sessions; but may also meet in extraordinary session if necessary. The Assembly is responsible for approving the work programme, voting the budget and determining the financial arrangements of the Organisation. The Assembly also elects the Council.

The Council

The Council is composed of 40 Member States elected by the Assembly for two-year terms beginning after each regular session of the Assembly. The IMO Convention provides that, in electing the Members of the Council, the Assembly shall observe the following criteria: (a) Ten members shall be from States with the largest interest in providing international shipping services; (b) Ten shall be from other States with the largest interest in international seaborne trade; (c) Twenty shall be from States not elected under (a) or (b) above which have special interests in maritime transport or navigation, and whose election to the Council will ensure the representation of all major geographic areas of the world.

In November 1993 the Assembly adopted an amendment to the IMO Convention which increased the size of the Council from 36 to 40. Groups (a) and (b) were increased from 16 to 20 members and Group (c) from 16 to 20. The amendment became operative 12 months after being accepted by two-thirds of IMO Member States.

The Council is the executive organ of the IMO and is responsible, under the Assembly, for supervising the work of the Organisation. Between sessions of the Assembly the Council performs all the functions of the Assembly, except the function of making recommendations to Governments on maritime safety and pollution prevention which is reserved for the Assembly by Article 15(j) of the Convention. Other functions of the Council are to:

- co-ordinate the activities of the committees of the Organisation;
- consider the draft work programme and budget estimates of the Organisation and submit them to the Assembly;
- receive reports and proposals of the Committees and other organs and submit them to the Assembly and Member States, with comments and recommendations as appropriate;
- appoint the Secretary-General, subject to the approval of the Assembly;
- enter into agreements or arrangements concerning the relationship of the Organisation with other organisations, subject to approval by the Assembly.

The Members of the Council elected by the 20th Assembly in 1997 for 1998-1999 are as follow for groups A, B and C respectively:

China, Greece, Italy, Japan, Norway, Russian Federation, United Kingdom, United States; Argentina, Brazil, Canada, France, Germany, India, Netherlands, Sweden; Algeria, Australia, Cyprus, Egypt, Finland, Indonesia, Liberia, Mexico, Panama, Philippines, Poland, Republic of Korea, Singapore, South Africa, Spain, Tunisia.

The Five Main Committees

Maritime Safety Committee (MSC)

“The MSC is the technical body of the Organisation. It consists of all Member States. The functions of the Maritime Safety Committee are to "consider any matter within

the scope of the Organisation concerned with aids to navigation, construction and equipment of vessels, manning from a safety standpoint, rules for the prevention of collisions, handling of dangerous cargoes, maritime safety procedures and requirements, hydrographic information, logbooks and navigational records, marine casualty investigation, salvage and rescue, and any other matters directly affecting maritime safety". (<http://www.imo.org/imo/intro.htm>)

The Committee is required to provide machinery for performing any duties assigned to it by the IMO Convention or any duty within its scope of work which may be assigned to it by or under any international instrument and accepted by the Organisation. It also has the responsibility for considering and submitting recommendations and guidelines on safety for possible adoption by the Assembly.

The MSC operates with the assistance of nine Sub-Committees. These are:

1. Bulk Liquids and Gases (BLG)
2. Carriage of Dangerous Goods, Solid Cargoes and Containers (DSC)
3. Fire Protection (FP)
4. Radiocommunications and Search and Rescue (COMSAR)
5. Safety of Navigation (NAV)
6. Ship Design and Equipment (DE)
7. Stability and Load Lines and Fishing Vessels Safety (SLF)
8. Standards of Training and Watchkeeping (STW)
9. Flag State Implementation (FSI).

Legal Committee

The Legal Committee is empowered to deal with any legal matters within the scope of the Organisation. The Committee consists of all Member States of the IMO. It was established in 1967 as a subsidiary body to deal with legal questions which arose in the aftermath of the Torrey Canyon disaster. The Legal Committee is also empowered to perform any duties within its scope which may be assigned by or under any other

international instrument and accepted by the Organisation (<http://www.imo.org/imo/intro.htm>).

Marine Environment Protection Committee (MEPC)

The MEPC, which consists of all Member States, is empowered to consider any matter within the scope of the Organisation concerned with prevention and control of pollution from ships. In particular it is concerned with the adoption and amendment of conventions and other regulations and measures to ensure their enforcement. The Sub-Committees on Bulk Liquids and Gases and Flag State Implementation are also subsidiary bodies of the MEPC as far as pollution aspects are concerned. The MEPC was first established as a subsidiary body of the Assembly and raised to full constitutional status in 1985 (<http://www.imo.org/imo/intro.htm>).

Technical Co-operation Committee

The Technical Co-operation Committee is required to consider any matter within the scope of the Organisation concerned with the implementation of technical co-operation projects for which the Organisation acts as the executive or co-operative agency and any other matters related to the Organisation's activities in the technical co-operation field. The Technical Co-operation Committee consists of all Member States of IMO, was established in 1969 as a subsidiary body of the Council, and was institutionalised by means of an amendment to the Convention which became operative in 1984 (<http://www.imo.org/imo/intro.htm>).

Facilitation Committee

The Facilitation Committee is a subsidiary body of the Council. It was established in May 1972 and deals with the IMO's work in eliminating unnecessary formalities and "red tape" in international shipping (<http://www.imo.org/imo/intro.htm>).

2.3 PROCEDURES FOR ADOPTING A CONVENTION

This is the part of the process with which the IMO as an organisation is most closely involved and the five committees and the council are involved in the adoption or implementation of conventions. Developments in shipping and other related industries are discussed by Member States in these committees, and the need for a new convention or amendments to existing conventions can be formulated.

Normally the suggestion is first made in one of the committees, since these meet more frequently than the assembly and council. If agreement is reached in the committee, the proposal goes to the Council and, as necessary, to the Assembly.

If the Assembly or the Council, as the case may be, gives the authorisation to proceed with the work, the committee concerned considers the matter in greater detail and ultimately draws up a draft instrument. In some cases the subject may be referred to a specialised subcommittee for detailed consideration.

Work in the committees and subcommittees is undertaken by the representatives of Member States of the Organisation. The views and advice of intergovernmental and international non-governmental organisations which have a working relationship with the IMO are also welcomed in these bodies. Many of these organisations have direct experience of the various matters under consideration, and are therefore able to assist with the work of the IMO in practical ways.

The draft convention which is agreed upon is reported to the Council and Assembly with a recommendation that a conference be convened to consider the draft for formal adoption.

Invitations to attend such a conference are sent to all Member States of the IMO and also to all States which are members of the United Nations or any of its specialised agencies. These conferences are therefore truly global conferences open to all Governments who would normally participate in a United Nations conference. All Governments participate on an equal footing. In addition, organisations of the United

Nations system and organisations in official relationship with the IMO are invited to send observers to the conference to provide the benefit of their expert advice to the representatives of Governments.

Before the conference opens, the draft convention is circulated to the invited Governments and organisations for their comments. The draft convention, together with the comments thereon from Governments and interested organisations is then closely examined by the conference and necessary changes are made in order to produce a draft acceptable to all or the majority of the Governments present. The convention thus agreed upon is then adopted by the conference and deposited with the Secretary-General who sends copies to Governments. The convention is opened for signature by States, usually for a period of 12 months. Signatories may ratify or accept the convention while non-signatories may accede.

The drafting and adoption of a convention in the IMO can take several years to complete although in some cases, when a quick response is required to deal with an emergency situation, Governments have been willing to accelerate this process considerably.

Entry into force

The adoption of a convention marks the conclusion of only the first stage of a long process. Before the convention comes into force - that is, before it becomes binding upon Governments which have ratified it - it has to be accepted formally by individual Governments.

Each convention includes appropriate provisions stipulating conditions which have to be met before it enters into force. These conditions vary, but, generally speaking, the more important and more complex the document, the more stringent the conditions for its entry into force. *For example; the International Convention for the Safety of Life at Sea, 1974, provided that entry into force requires acceptance by 25 States whose merchant fleets comprise not less than 50 per cent of the world's gross tonnage; for*

the International Convention on Tonnage Measurement of Ships, 1969, the requirement was acceptance by 25 States whose combined merchant fleets represent not less than 65 per cent of world tonnage (<http://www.imo.org/imo/conv.htm>).

When the appropriate conditions have been fulfilled, the convention enters into force for the States which have accepted - generally after a period of grace intended to enable all the States to take the necessary measures for implementation.

In the case of some conventions which affect a few States or deal with less complex matters, the entry into force requirements may not be so stringent. For example, the Convention Relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material, 1971, came into force 90 days after being accepted by five States; the Special Trade Passenger Ships Agreement, 1971, came into force six months after three States (including two with ships or nationals involved in special trades) had accepted it.

For the important technical conventions, it is necessary that they be accepted and applied by a large section of the shipping community. It is therefore essential that these should, upon entry into force, be applicable to as many of the maritime states as possible. Otherwise they would tend to confuse, rather than clarify, shipping practice since their provisions would not apply to a significant proportion of the ships they were intended to deal with.

Accepting a convention does not merely involve the deposit of a formal instrument. A Government's acceptance of a convention necessarily places on it the obligation to take the measures required by the convention. Often national law has to be enacted or changed to enforce the provisions of the convention; in some case, special facilities may have to be provided; an inspectorate may have to be appointed or trained to carry out functions under the convention; and adequate notice must be given to shipowners, shipbuilders and other interested parties so that they may take account of the provisions of the convention in their future acts and plans.

At present IMO conventions enter into force within an average of five years after adoption. The majority of these instruments are now in force or are on the verge of fulfilling requirements for entry into force.

Signature, ratification, acceptance, approval and accession

The terms signature, ratification, acceptance, approval and accession refer to some of the methods by which a State can express its consent to be bound by a treaty.

Signature

Consent may be expressed by signature where:

- the treaty provides that signature shall have that effect;
- it is otherwise established that the negotiating States were agreed that signature should have that effect;
- the intention of the State to give that effect to signature appears from the full powers of its representatives or was expressed during the negotiations (Vienna Convention on the Law of Treaties, 1969, Article 12.1).

A State may also sign a treaty "subject to ratification, acceptance or approval". In such a situation, signature does not signify the consent of a State to be bound by the treaty, although it does oblige the State to refrain from acts which would defeat the object and purpose of the treaty until such time as it has made its intention clear not to become a party to the treaty (Vienna Convention on the Law of Treaties, Article 18(a)).

Signature subject to ratification, acceptance or approval

Most multilateral treaties contain a clause making provision that a State may express its consent to be bound by the instrument by signature subject to ratification.

In such a situation, signature alone will not suffice to bind the State, but must be followed up by the deposit of an instrument of ratification with the depositary of the treaty.

This option of expressing consent to be bound by signature subject to ratification, acceptance or approval originated in an era when international communications were not instantaneous, as they are today.

It was a means of ensuring that a State representative did not exceed his powers or instructions with regard to the making of a particular treaty. The words acceptance and approval basically mean the same as ratification, but they are less formal and non-technical and might be preferred by some States which might have constitutional difficulties with the term ratification.

Many States nowadays choose this option, especially in relation to multinational treaties, as it provides them with an opportunity to ensure that any necessary legislation is enacted and other constitutional requirements fulfilled before entering into treaty commitments.

A treaty may additionally provide for consent to be expressed by signature subject to acceptance or approval. The terms are very similar to ratification in their effect. This is borne out by Article 14.2 of the Vienna Convention on the Law of Treaties which provides that "the consent of a State to be bound by a treaty is expressed by acceptance or approval under conditions similar to those which apply to ratification."

Accession

Most multinational treaties are open for signature for a specified period of time. Accession is the method used by a State to become a party to a treaty which it did not sign whilst the treaty was open for signature. Technically, accession requires the State in question to deposit an instrument of accession with the depositary. Article 15 of the

Vienna Convention on the Law of Treaties provides that consent by accession is possible where the treaty so provides, or where it is otherwise established that the negotiating States were agreed or subsequently agreed that consent by accession could occur.

Amendment

Technology and techniques in the shipping industry change very rapidly these days. As a result, not only are new conventions required but existing ones need to be kept up to date. For example, the International Convention for the Safety of Life at Sea (SOLAS), 1960 was amended six times after it entered into force in 1965 - in 1966, 1967, 1968, 1969, 1971 and 1973. In 1974 a completely new convention was adopted incorporating all these amendments (and other minor changes) and was itself modified (in 1978, 1981, 1983, 1988, 1990 and 1991).

In earlier conventions, amendments came into force only after a percentage of Contracting States, usually two thirds, had accepted them. This normally meant that more acceptances were required to amend a convention than were originally required to bring it into force in the first place, especially where the number of States which are Parties to a convention is very large.

This percentage requirement in practice led to long delays in bringing amendments into force. To remedy the situation, a new amendment procedure was devised in the IMO. This procedure has been used in the case of conventions such as the Convention on the International Regulations for Preventing Collisions at Sea, 1972, the International Convention for the Prevention of Pollution from Ships, 1973 and SOLAS 1974, all of which incorporate a procedure involving the "tacit acceptance" of amendments by States.

Instead of requiring that an amendment shall enter into force after being accepted by, for example, two thirds of the Parties, the new procedure provides that an amendment shall enter into force at a particular time unless, before that date, objections to the

amendment are received from a specified number of Parties. In the case of the 1974 SOLAS Convention, an amendment to most of the Annexes (which constitute the technical parts of the Convention) is 'deemed to have been accepted at the end of two years from the date on which it is communicated to Contracting Governments...' unless the amendment is objected to by more than one third of Contracting Governments, or Contracting Governments owning not less than 50 per cent of the world's gross merchant tonnage. This period may be varied by the Maritime Safety Committee with a minimum limit of one year (Hare, Georgia Journal: Volume 26, Issue 3).

As was expected, the "tacit acceptance" procedure has greatly speeded up the amendment process. The 1981 amendments to SOLAS 1974, for example, entered into force on 1 September 1984. Compared to this, none of the amendments adopted to the 1960 SOLAS Convention between 1966 and 1973 received sufficient acceptance to satisfy the requirements for entry into force.

Enforcement

The enforcement of IMO conventions depends upon the Governments of Member Parties. The Organisation has no powers in this respect.

Contracting Governments enforce the provisions of IMO conventions as far as their own ships are concerned and also set the penalties for infringements, where these are applicable. They may also have certain limited powers in respect of the ships of other Governments.

In some conventions, certificates are required to be carried on board ship to show that they have been inspected and have met the required standards. These certificates are normally accepted as proof by authorities from other States that the vessel concerned has reached the required standard, but in some cases further action can be taken.

The 1974 SOLAS Convention, for example, states that "the officer carrying out the control shall take such steps as will ensure that the ship shall not sail until it can proceed to sea without danger to the passengers or the crew". This can be done if there are clear grounds for believing that the condition of the ship and its equipment does not correspond substantially with the particulars of that certificate' (Hare, Georgia Journal: Volume 26, Issue 3).

An inspection of this nature would, of course, take place within the jurisdiction of the Port State. But when an offence occurs in international waters, the responsibility for imposing a penalty rests with the Flag State.

Should an offence occur within the jurisdiction of another State, however, that State can either cause proceedings to be taken in accordance with its own law or give details of the offence to the Flag State so that the latter can take appropriate action.

Under the terms of the 1969 Convention Relating to Intervention on the High Seas, Contracting States are empowered to act against ships of other countries which have been involved in an accident or have been damaged on the high seas if there is a grave risk of oil pollution occurring as a result.

The way in which these powers may be used are very carefully defined, and in most conventions the Flag State is primarily responsible for enforcing conventions as far as its own ships and their personnel are concerned.

The majority of conventions adopted under the auspices of the IMO, or for which the Organisation is otherwise responsible, fall into three main categories.

The first group is concerned with maritime safety; the second with the prevention of marine pollution; and the third with liability and compensation, especially in relation to damage caused by pollution. Outside these major groupings are a number of other conventions dealing with facilitation, tonnage measurement, unlawful acts against shipping and salvage.

2.4 IMO MEMBER STATES, WITH YEAR OF JOINING

Figure 1 shows all the member states of the IMO and the year they have joined.

Figure 1: IMO Member states

Albania	1993
Algeria	1963
Angola	1977
Antigua and Barbuda	1986
Argentina	1953
Australia	1952
Austria	1975
Azerbaijan	1995
Bahamas	1976
Bahrain	1976
Bangladesh	1976
Barbados	1970
Belgium	1951
Belize	1990
Benin	1980
Bolivia	1987
Bosnia and Herzegovina	1993
Brazil	1963
Brunei Darussalam	1984
Bulgaria	1960
Cambodia	1961
Cameroon	1961
Canada	1948
Cape Verde	1976
Chile	1972
China	1973
Colombia	1974
Congo	1975

Costa Rica	1981
Côte d'Ivoire	1960
Croatia	1992
Cuba	1966
Cyprus	1973
Czech Republic	1993
Democratic People's Republic of Korea	1986
Democratic Republic of the Congo*	1973
Denmark	1959
Djibouti	1979
Dominica	1979
Dominican Republic	1953
Ecuador	1956
Egypt	1958
El Salvador	1981
Equatorial Guinea	1972
Eritrea	1993
Estonia	1992
Ethiopia	1975
Fiji	1983
Finland	1959
France	1952
Gabon	1976
Gambia	1979
Georgia	1993
Germany	1959
Ghana	1959

Greece	1958
Grenada	1998
Guatemala	1983
Guinea	1975
Guinea-Bissau	1977
Guyana	1980
Haiti	1953
Honduras	1954
Hungary	1970
Iceland	1960
India	1959
Indonesia	1961
Iran (Islamic Republic of)	1958
Iraq	1973
Ireland	1951
Israel	1952
Italy	1957
Jamaica	1976
Japan	1958
Jordan	1973
Kazakhstan	1994
Kenya	1973
Kuwait	1960
Latvia	1993
Lebanon	1966
Liberia	1959
Libyan Arab Jamahiriya	1970
Lithuania	1995
Luxembourg	1991
Madagascar	1961
Malawi	1989
Malaysia	1971
Maldives	1967
Malta	1966
Marshall Islands	1998

Mauritania	1961
Mauritius	1978
Mexico	1954
Monaco	1989
Mongolia	1996
Morocco	1962
Mozambique	1979
Myanmar	1951
Namibia	1994
Nepal	1979
Netherlands	1949
New Zealand	1960
Nicaragua	1982
Nigeria	1962
Norway	1958
Oman	1974
Pakistan	1958
Panama	1958
Papua New Guinea	1976
Paraguay	1993
Peru	1968
Philippines	1964
Poland	1960
Portugal	1976
Qatar	1977
Republic of Korea	1962
Romania	1965
Russian Federation	1958
Saint Lucia	1980
Saint Vincent and the Grenadines	1981
Samoa	1996
Sao Tome and Principe	1990
Saudi Arabia	1969
Senegal	1960
Seychelles	1978

Sierra Leone	1973
Singapore	1966
Slovakia	1993
Slovenia	1993
Solomon Islands	1988
Somalia	1978
South Africa	1995
Spain	1962
Sri Lanka	1972
Sudan	1974
Suriname	1976
Sweden	1959
Switzerland	1955
Syrian Arab Republic	1963
Thailand	1973
The former Yugoslav Republic of Macedonia	1993
Togo	1983
Trinidad and Tobago	1965
Tunisia	1963
Turkey	1958
Turkmenistan	1993
Ukraine	1994
United Arab Emirates	1980
United Kingdom of Great Britain and Northern Ireland	1949
United Republic of Tanzania	1974
United States of America	1950
Uruguay	1968
Vanuatu	1986
Venezuela	1975
Viet Nam	1984
Yemen	1979
Yugoslavia	1960

Associate Members:	
Hong Kong, China	1967
Macau	1990

Source: <http://www.imo.org/imo/intro.htm>

2.5 RELEVANT IMO CONVENTIONS

The IMO Conventions that will be discussed can be categorised as the Maritime safety conventions and the Marine pollution conventions.

The Maritime safety conventions include:

- International Convention for the Safety of Life at Sea (SOLAS), 1960 and 1974
- International Convention on Load Lines (LL), 1966
- International Regulations for Preventing Collisions at Sea (COLREG), 1972
- International Convention for Safe Containers (CSC), 1972
- Convention on the International Maritime Satellite Organisation (INMARSAT), 1976
- International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978
- International Convention on Maritime Search and Rescue (SAR), 1979

The Maritime pollution conventions include:

- International Convention for the Prevention of Pollution of the Sea by Oil (OILPOL), 1954
- International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78)
- International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (INTERVENTION), 1969

International Convention for the Safety of Life at Sea (SOLAS), 1960

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, the second in 1929 and the third in 1948.

The main objective of the SOLAS Convention is to:

- cover a wide range of measures designed to improve the safety of shipping;
- include subdivision and stability;
- control machinery and electrical installations;
- ensure fire protection;
- enable detection and extinction;
- enforce life-saving appliances;
- control radiotelegraphy and radiotelephony;
- ensure safety of navigation;
- control carriage of grain;
- control carriage of dangerous goods;
- cover nuclear ships;
- ensure that 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.

The 1960 Convention was the first major task for the IMO after its creation and it represented a considerable step forward in modernising regulations and in keeping pace with technical developments in the shipping industry.

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

In 1974 a completely new convention was adopted, which included not only the amendments agreed up until that date but a new amendment procedure designed to

ensure that changes could be made within a specified (and acceptably short) period of time.

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.

General provisions are contained in chapter I of the SOLAS Convention, the most important of them 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.

The subdivision and stability 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 the ship's length and the service in which it is engaged. The highest degree of subdivision applies to passenger ships.

Machinery and electrical installations: these requirements 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.

Fire protection, fire detection and fire extinction: casualties to passenger ships through fire emphasised the need to improve the fire protection provisions of the 1960 Convention, and in 1966 and 1967 amendments were adopted by the IMO Assembly. These and other amendments, particularly detailed fire safety provisions for tankers and combination carriers, such as inert gas, were incorporated in chapter II-2 of the 1974 Convention.

These provisions are based on 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 used of combustible materials.
- Detection of any fire in the zone of origin.
- Containment and extinction of any fire in the zone of origin.
- Protection of the means of escape or of access for fire-fighting purposes.
- Ready availability of fire-extinguishing appliances.
- Minimisation of the possibility of ignition of flammable cargo vapour.

Life-saving appliances and arrangements are dealt with in chapter III, which was completely revised by the 1983 amendments which came into force on 1 July 1986. The chapter is divided into three parts.

Part A contains general provisions regarding application of the requirements, exemptions, definitions, evaluation, testing and approval of appliances and arrangements and production tests.

Part B contains the ship requirements and is subdivided into:

- section I dealing with common requirements applicable to both passenger ships and cargo ships;
- section II containing additional requirements for passenger ships; and
- section III containing additional requirements for cargo ships.

Part C deals with the life-saving appliance requirements and is divided into eight sections.

- Section I contains general requirements,
- section II, requirements for personal life-saving appliances,
- section III, visual signal requirements,
- section IV, requirements for survival craft,

- section V, rescue boat provisions,
- section VI, requirements for launching and embarkation appliances,
- section VII, other life-saving appliances, and
- section VIII, miscellaneous matters.

Radiotelegraphy and radiotelephony form the subject matter of chapter IV: Part A describes the type of facility to be carried. Operational requirements for watchkeeping and listening are given in part B, while technical provisions are detailed in part C. This part also includes technical provisions for direction finders and for motor lifeboat radiotelegraph installations, together with portable radio apparatus for survival craft. The radio officer's obligations regarding mandatory logbook entries are listed in part D.

Safety of navigation is dealt with in chapter V, which 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; routing 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.

Carriage of grain forms the subject matter of chapter VI. Shifting is an inherent characteristic of grain, and its effect on a ship's stability can be disastrous. Consequently, the SOLAS Convention contains provisions concerning stowing, trimming and securing grain cargoes.

Provision is made for ships constructed specially for the transport of grain, and a method for calculating the adverse heeling moment due to a shift of cargo surface in ships carrying bulk grain is specified. It also provides for documents of authorisation, grain loading stability data and associated plans of loading. Copies of all relevant

documents must be available on board to enable the master to meet the chapter's requirements. This chapter was revised in 1991, to make it applicable to all types of cargo except liquids and gases in bulk. The carriage of dangerous goods is dealt with in chapter VII, which contains provisions for the classification, packing, marking, labelling and placarding, documentation and stowage of dangerous goods in packaged form, in solid form in bulk, and liquid chemicals and liquefied gases in bulk.

The classification follows the system used by the UN for all modes of transport. The UN system has been adapted for marine transport and the provisions are in some cases more stringent.

Contracting Governments are required to issue instructions at the national level. To help them do this, the Organisation developed the International Maritime Dangerous Goods (IMDG) Code. The IMDG Code is constantly updated to accommodate new dangerous goods and to supplement or revise existing provisions. Regulations concerning substances carried in bulk in purpose-built ships were introduced in the 1983 amendments dealt with below.

Nuclear ships are covered in chapter VIII. Only basic requirements are given and are particularly concerned with radiation hazards. However, a detailed and comprehensive Code of Safety for Nuclear Merchant Ships was adopted by the IMO Assembly in 1981 as an indispensable companion document.

International Convention on Load Lines 1966

It has long been recognised that limitations to the draught to which a ship may be loaded make a significant contribution to her safety. These limits are given in the form of freeboards, which constitute, besides external weathertight and watertight integrity, the main objective of this Convention.

The first International Convention on Load Lines, adopted in 1930, was based on the principle of reserve buoyancy, although it was recognised then that the freeboard

should also ensure adequate stability and avoid excessive stress on the ship's hull as a result of overloading. Provisions are made determining the freeboard of tankers by subdivision and damage stability calculations.

The calculations take into account the potential hazards present in different zones and different seasons. The technical annex contains several additional measures concerning doors, freeing ports, hatchways and other items. The main purpose of these measures is to ensure the watertight integrity of ship's hulls below the freeboard deck.

All assigned load lines must be marked amidships on each side of the ship, together with the deck line. Ships intended for the carriage of timber deck cargo are assigned a smaller freeboard as the deck cargo provides protection against the impact of waves.

Amendments were adopted to the Convention

- in 1971 (to make certain improvements to the text and to the chart of zones and seasonal areas);
- in 1975 (to introduce the principle of 'tacit acceptance' into the Convention);
- in 1979 (to make some alterations to zone boundaries off the coast of Australia), and
- in 1983 (to extend the summer and tropical zones southward off the coast of Chile).

None of these amendments have yet come into force. In each case, two-thirds of Contracting States are required to accept the amendments, and these requirements have not yet been met.

International Regulations for Preventing Collisions at Sea (COLREG) 1972

One of the most important innovations in the 1972 Regulations was the recognition given to traffic separation schemes. Rule 10 states that vessels using these schemes will be required to proceed in the appropriate traffic lane in the general direction of traffic flow for that lane, keeping clear of a traffic separation line or zone. In so far as is practicable, vessels must avoid crossing traffic lanes. When crossing a line is necessary, it must be accomplished as nearly as practicable at right angles to the general direction of the traffic flow.

The Convention groups provisions into sections dealing with steering and sailing; lights and shapes and sound signals. There are also four annexes containing technical requirements concerning lights and shapes and their positioning, sound signalling appliances; additional signals for fishing vessels when operating in close proximity, and international distress signals.

Guidance is provided in determining safe speed, the risk of collision and the conduct of vessels operating in or near traffic separation schemes. Other rules concern the operation of vessels in narrow channels, the conduct of vessels under conditions of restricted visibility, vessels restricted in their ability to manoeuvre, and provisions concerning vessels constrained by their draught.

The rules also include requirements for special lights for air-cushion vessels operating in the non-displacement mode, a yellow light to be exhibited above the white stern light by vessels engaged in towing. Special lights and day signals for vessels engaged in dredging or under water operations, and sound signals to be given when visibility is restricted.

International Convention for Safe Containers 1972

In view of the rapid increase in the use of freight containers for the consignment of goods by sea and the development of specialised container ships, the IMO, in 1967,

undertook to study the safety of containerisation in marine transport. The container itself emerged as the most important aspect to be considered.

The 1972 Convention for Safe Containers set two goals. One was to maintain a high level of safety for human life in the transport and handling of containers by providing generally acceptable test procedures and related strength requirements which have proven adequate over the years. The other was to facilitate the international transport of containers by providing uniform international safety regulations, equally applicable to all modes of surface transport. In this way, proliferation of divergent national safety regulations can be avoided.

The requirements of the Convention apply to the great majority of freight containers used internationally, except those designed specially for carriage by air. As it was not intended that all containers, vans or reusable packing boxes should be affected, the scope of the Convention is limited to containers of a prescribed minimum size having corner-fittings devices which permit handling, securing or stacking.

Convention on the International Maritime Satellite Organisation (INMARSAT)

1976

For some years maritime radio communication frequency bands have become increasingly congested. With the continuous expansion of maritime mobile communications, the situation will continue to deteriorate. This could have serious consequences for maritime communications and safety at sea.

The use of space technology, however, could help overcome the problem and many others which have arisen in recent years. The IMO has been involved in this subject since 1966, and in 1973 decided to convene a conference with the object of establishing a new maritime communications system based on satellite technology.

The Convention defines the purposes of Inmarsat as being paramount in improving maritime communications, thereby assisting in distress and safety of life at sea

communications, the efficiency and management of ships, public correspondence service, and radio determination capabilities.

***International Convention on Standards of Training, Certification and
Watchkeeping for Seafarers (STCW) 1978***

The Convention is the first to establish requirements for training, certification and watchkeeping for seafarers at an international level. It is divided into the master-deck department, which outlines basic principles to be observed in keeping a navigational watch. It then lays down mandatory minimum requirements for the certification of masters, chief mates and officers in charge of navigational watches on ships of 200 gross register tonnage (grt) or more. Other regulations deal with mandatory minimum requirements for officers in charge of navigational watches and masters of ships of less than 200 grt and for ratings forming part of a navigational watch.

Engine Department outlines basic principles to be observed in keeping an engineering watch. It includes mandatory minimum requirements for certification of chief and second engineer officers of ships with main propulsion machinery of 3000 kW or more and for ships between 750 kW and 3000 kW.

Mandatory minimum requirements are also laid down for the certification of engineer officers in charge of a watch in a traditionally manned engine room, or the designated engineer in a periodically unmanned engine room, and it also establishes mandatory minimum requirements for ratings forming part of an engine room watch.

Radio watchkeeping and maintenance provides the mandatory minimum requirements for certification of radio officers and radio operators, and requirements to ensure their continued proficiency and updating of knowledge.

Special requirements are also provided for masters and officers of oil, chemical and liquefied gas tankers.

International Convention on Maritime Search and Rescue, 1979

The main purpose of the Convention is to facilitate co-operation between Governments and between those participating in search and rescue operations at sea, by establishing an international search and rescue plan.

Co-operation of this type is encouraged by SOLAS 1974; parties undertake to ensure that all necessary arrangements are made for coast watching and for the rescue of persons in distress round coasts. These arrangements should include the establishment, operation and maintenance of such maritime safety facilities as are deemed practicable and necessary.

Contracting parties are encouraged to enter into Search and Rescue agreements with neighbouring states, involving the establishment of Search and Rescue regions, the pooling of facilities, establishment of common procedures, training and liaison visits.

The Convention then goes on to establish 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 during Search and Rescue operations.

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

Marine Pollution:

International Convention for the Prevention of Pollution of the Sea by Oil (OILPOL), 1954

Depository responsibilities for this Convention were passed to the IMO when it was established in 1959. As one of its first tasks, the organisation carried out a world wide enquiry into the general extent of oil pollution, the availability of shore reception facilities and the progress of research on methods of combating the increasing menace.

The conference prohibits the deliberate discharge of oil or oily mixtures from all seagoing vessels, except tankers of under 150 tons gross and other ships of under 500 tons gross, in specific areas called “prohibited zones”. In general, these extend at least 50 miles from all land areas, although zones of 100 miles and more were established in areas which included the Mediterranean and Adriatic Seas, the Gulf and Red Sea, the coasts of Australia, Madagascar and some others.

The contracting parties undertake to promote the provision of facilities for the reception of oil residues and oily mixtures without causing undue delay to ships. The convention prescribes that every ship which uses oil fuel and every tanker shall be provided with a book in which all the oil transfers and ballasting operations shall be recorded. The oil record book may be inspected by authorities of any contracting party.

The OILPOL Convention was superseded by MARPOL 73/78, but it is important to know the underlying reasons for the establishing of MARPOL.

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

This covers all the technical aspects of pollution from ships, except disposal of waste into the sea by dumping, and applies to ships of all types, although it does not apply to pollution arising out of the exploration of sea-bed mineral resources.

The convention has two protocols dealing respectively with Reports on Incidents involving Harmful Substances and Arbitration, and five Annexes which contain regulations for the prevention of various forms of pollution:

- a) pollution by oil;
- b) pollution by noxious liquid substances carried in bulk;
- c) pollution by harmful substances carried in packages, portable tanks, freight containers, or road and rail tank wagons, etc;
- d) pollution by sewage from ships; and
- e) pollution by garbage from ships.

A new and important feature of the 1973 convention is the concept of “special areas” which are considered to be so vulnerable to pollution by oil that oil discharges within them have been completely prohibited, with minor and well-defined exceptions. The main special areas are the Mediterranean Sea, the Black Sea, the Baltic Sea, the Red Sea and the Gulf area.

All oil-carrying ships are required to be capable of operating the method of retaining oily wastes on board through the “load on top” system or for discharge to shore reception facilities.

It is generally recognised that the effectiveness of international conventions depends on the degree to which they are obeyed and this, in turn, depends largely upon the extent to which they are enforced. The 1978 Protocol to MARPOL therefore introduce stricter regulations for the survey and certification of ships.

This procedure, in effect, meant that the Protocol had absorbed the parent convention. States which ratify the Protocol must also give effect to the provisions of the 1973 Convention; there is no need for a separate instrument of ratification for the latter. The 1973 MARPOL Convention and the 1978 MARPOL Protocol should therefore be read as one instrument, which is usually referred to as MARPOL 73/78.

International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969

The Torrey Canyon disaster of 1967 brought certain concerns to the surface 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 a need for a new regime which, while recognising 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 which resulted 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 any maritime casualty. The coastal State is, however, empowered to take only such action as 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 services.

It is important to note that the Conventions are only discussed in broad terms to give an overall idea of what they are about and how it is of importance to the work that the South African Maritime Safety Authority has to do with regard to maritime safety.

2.6 INTERNATIONAL SAFETY MANAGEMENT CODE (ISM CODE)

The International Management Code for the Safe Operation of Ships and for Pollution Prevention (International Safety Management Code or ISM Code) was adopted by the IMO Organisation with resolution A.741(18) and was made mandatory by virtue of the coming into force on 1 January 1998 of SOLAS chapter IX "Management for the Safe Operation of Ships". The ISM Code provides an international standard for the safe management and operation of ships and for pollution prevention (<http://www.org/imo.htm>).

The ISM Code requires that shipping companies establish safety objectives and, in addition, that the companies develop, implement and maintain a Safety Management System (SMS).

The application of the ISM Code should support and encourage the development of a safety culture in shipping. Success factors for the development of a safety culture are, inter alia, commitment, values and beliefs.

Mandatory Application of the ISM Code

An appropriate organisation of management, ashore and on board, is needed to ensure adequate standards of safety. A systematic approach to management by those responsible for management of ships is therefore required. The objectives of the mandatory application of the ISM Code are to ensure:

- compliance with mandatory rules and regulations related to the safe operation of ships and protection of the environment; and
- the effective implementation and enforcement thereof by safety administrations.

Effective enforcement by safety administrations must include verification that the Safety Management System (SMS) complies with the requirements as stipulated in the ISM Code, as well as verification of compliance with mandatory rules and regulations.

The mandatory application of the ISM Code should ensure, support and encourage that applicable codes, guidelines and standards recommended by the IMO, safety administrations, classification societies and maritime industry organisations are taken into account.

Verification and Certification Responsibilities

The safety administration is responsible for verifying compliance with the requirements of the ISM Code and issuing Documents of Compliance (DOC) to shipping companies and Safety Management Certificates (SMC) to ships. Resolution A.739(18) "Guidelines for the Authorisation of Recognised Organisations acting on behalf of the Administrations", which was made mandatory by the new SOLAS chapter XI and resolution A.740(18) "Interim Guidelines to assist flag States" are applicable when Administrations authorise organisations to issue DOC and SMC on their behalf.

There will be flags of convenience and classification societies who deliberately ignore the ISM code and, thus, offer shelter to shipowners who see that there is a profit to be made with substandard shipping. In future, after compliance with the ISM code has become mandatory, these shipowners and their vessels will be easier to recognise. Unfortunately it is impossible to assess the quality of ISM Documents of Compliance and ISM Safety Management Certificates issued by 150 Flag States, and act accordingly.

The credibility of classification societies will be important and sub-standard ships that are not classified by an acceptable classification society will be subjected to Port State Control.

2.7 THE COSTS OF THE IMO

The IMO has a permanent staff of \pm 300 members. The total budget for the 1998/99 financial year is £36,612,000 (about US\$56.3 million), the same as for 1996/97. This is less than half it would cost to buy a medium-sized oil tanker and represents only a fraction of the cost of the damage caused by an oil spill, for example the Exxon Valdez spill in Alaska in 1989 which has so far cost more than US\$5 billion.

If the IMO is responsible for preventing just one oil tanker accident a year, it more than covers its cost.

The IMO budget is unique for another reason. Cost are shared between the 157 Member States, primarily in proportion to the size of each one's fleet of merchant ships. The biggest fleets are currently operated under the Panama and Liberian flags and these candidates therefore contribute the biggest share of the IMO's budget. Panama's share of the £17,606,100 contribution for 1998/99 comes to £2,649,301 (15.05%) and Liberia's to £1,817,704 (10.35%) but none of the other Member States pays more than a million pounds a year. The United States, which pays by far the highest contribution to the budgets of other UN agencies, pays only £709,898 (4.03%)

of IMO's budget while the host country, the United Kingdom, pays £519,503 (2.95%).
Figure 2 provides a summary of the ten countries that contributes the most.

Figure 2: Ten biggest IMO contributors

	£m	%
1. Panama	2.6	15.05
2. Liberia	1.8	10.35
3. Japan	0.92	5.24
4. Greece	0.82	4.67
5. Bahamas	0.76	4.34
6. Cyprus	0.71	4.08
7. USA	0.70	4.03
8. Norway	0.69	3.97
9. Singapore	0.52	2.95
10. China	0.51	2.92

Source: (<http://www.imo.org/info.imo.htm>)

CHAPTER 3

THE THREE REGULATORY REGIMES

The international maritime community uses three regulatory regimes to ensure the maintenance of safety standards at sea. This is deemed necessary to work in accordance with each other to ensure that the laws and regulations of countries are enforced, and by doing that, ensure that safety standards are maintained at sea. The first is: *Flag State Control*, which covers the international and domestic powers and obligations of a state which allows vessels to register under its flag. The second of the control measures is the control by a *Coastal State* in policing the use of its waters by foreign tonnage. *Port State Control*, as the third jurisdictional regime, concerns the port state's inspection of visiting ships to ensure that they comply with international regulations.

3.1 FLAG STATE CONTROL

In international customary maritime law, it is incumbent upon any state which allows the registration of vessels under its flag to effectively exercise its jurisdiction and control in administrative, technical and social matters over ships flying its flag [UNCLOS IV Art 94]. The Flag State is required to take such measures for ships flying its flag as are necessary to ensure safety at sea with regard to, *inter alia*, construction, maintenance and seaworthiness, manning, labour conditions and crew training and prevention of collisions. Specifically in relation to the monitoring of the condition of vessels under the flag, such measures shall include those necessary to ensure that each ship is appropriately surveyed as to condition, equipment and manning (<http://imo.org/imo/introd.htm>).

Art 94.5 of UNCLOS IV then imposes a duty on Flag States to take any steps necessary to secure observance, with generally accepted international regulations, procedures and practices. The obligation is repeated in relation to oil pollution. This is achieved, in the main, by the Flag State issuing the vessel's safety certificates

indicating compliance with the main international conventions, without which it is impossible to trade the ship world wide. And it is these certificates which provide the key to the Port State Control inspection system.

The UN Convention on the Conditions for Registration of Ships believe that a Flag State should have a competent and adequate national maritime administration and seeks to compel flag states to ensure that ships flying the flag of such a State comply with its laws and regulations concerning registration of ships, and with applicable international rules and standards concerning the safety of ships, crew and passengers on board and the prevention of pollution of the marine environment (<http://imo.org/imo/introd.htm>). And further that such ships are periodically surveyed by its authorised surveyors in order to ensure compliance with applicable international rules and standards.

It is important to look at classification societies and flags of convenience to understand the role of Flag States and to identify and understand the criteria by which flag states can be evaluated.

Classification Societies

Certification by a Classification Society attempts to classify a high value asset, to check a piece of equipment such as a small cargo ship to large oil and chemical carriers for any breaches regarding international rules and regulations on safety. Classification reduces the risk to an investor because, if the classification has been done by a respected Classification Society, then it is safe to invest because the piece of equipment, in this case the ship, has been checked to the highest standards and is safe to operate. There are a few parties that rely on classification. They are underwriters, charterers, vessel purchasers and government authorities. Classification plays a vital and increasingly important role in ship safety. Flag States rely on classification. As the world demands higher standards of ship safety, operation and environmental protection, the burden of making it happen will inevitably fall primarily on classification. However, as the scope of classification work grows, so do

the potential liabilities to which it is exposed. It is very tempting for some to see classification societies as deep pocket defendants to be sued in a claim. If liabilities become too great and classification is sued too often, it could be forced to withdraw or limit some of the services it performs in the public interest at present.

Classification societies have to help the shipping industry to develop safety at sea. That means they operate at the cutting edge of technology. They must base decisions on original research and cannot always rely on past experience. Everyone expects classification to make a definite statement of approval regarding new concepts, even if the risks are huge, the potential liabilities are huge and information on which to base a decision is scarce.

The eleven most known and respected Classification Societies are:

- American Bureau of Shipping
- Bureau Veritas
- Hina Classification Society
- Det Norske Veritas
- Germanischer Lloyd
- Korean Register of Shipping
- Lloyds Register of Shipping
- Nippon Kaiji Kyokai
- Registro Italiano Navale
- Russian Maritime Register of Shipping
- Bahamas Maritime Authority

Flags of Convenience (FOC)

A Flag of Convenience ship, is one that flies the flag of a country other than the country of ownership. Cheap registration fees, low or no taxes and freedom to employ cheap labour are the motivating factors behind a shipowner's decision to 'flag out'. This results in sub standard ships because shipowners employ labour which is sometimes not qualified in terms of the STCW Convention.

The ITF (International Transport Workers Federation) takes into account the degree to which foreign owned vessels are registered on the registry and look at the following additional criteria when declaring a register as FOC:

- The ability and willingness of the Flag State to enforce international minimum social standards on its vessels, including respect for basic human and trade union rights, freedom of association and the right to collective bargaining with *bona fide* trade unions.
- The social record as determined by the degree of ratification and enforcement of ILO Conventions and Recommendations.
- The safety and environmental record as revealed by the ratification; and
- Enforcement of IMO Conventions as revealed by Port State Control inspections, deficiencies and detentions.

The ITF believes there should be a “genuine link” between the real owner of a vessel and the flag the vessel flies in accordance with the United Nations Convention on the Law of the Sea (UNCLOS IV). There is no "genuine link" in the case of FOC registries.

These registers have poor safety and training standards, and place no restriction on the nationality of the crew. This results in seafarers not being able to communicate effectively with other crew members as they do not share a common language. With

so many accidents occurring at sea each year, lack of communication can determine whether a ship is lost or saved.

In many cases these registers are not even run from the country concerned. A good example of this is the Liberian register. All its paperwork is done by a private company in the USA. The Cambodian registry is based in Singapore.

Once a ship is registered under an FOC classification, the shipowner recruits the cheapest labour he can find, pays minimal wages and cuts costs by lowering standards of living and working conditions for the crew (<http://www.itf.co.uk>).

The following 27 countries in figure have been given FOC classification by the ITF's Fair Practices Committee (a joint committee of ITF seafarers' and dockers' unions) which runs the ITF campaign against FOCs:

Figure 3: Countries classified as FOCs

Antigua and Barbuda	Cayman Islands (UK)	Malta
Aruba (Netherlands)	Cook Islands (New Zealand)	Marshall Islands (USA)
Bahamas	Cyprus	Mauritius
Barbados	German International Ship Register (GIS)	Netherlands Antilles
Belize	Gibraltar (UK)	Panama
Bermuda (UK)	Honduras	St. Vincent
Burma	Lebanon	Sri Lanka
Cambodia	Liberia	Tuvalu
Canary Islands (Spain)	Luxembourg	Vanuatu

The dangers presented by FOC ships are that seafarers who are employed on FOC ships are denied their basic trade union rights, as FOC registers do not enforce minimum social standards. Most FOC seafarers are not members of a trade union, and unions are powerless to influence what happens on board (<http://www.itf.co.uk>).

A continuous investigation undertaken by the International Transport Workers Federation (ITF) reported that the most common abuses of seafarers are:

- Very low wages
- Poor on-board living conditions
- Long periods of work without proper rest, leading to stress and fatigue
- Little or no shore leave
- Inadequate medical attention
- Inadequate safety training
- Neglected ship maintenance
- Being abandoned to fend for themselves and left to rely on charity.

With very little regard for safety regulations, many FOC vessels are older than the average age of the rest of the world fleet. Tens of thousands of seafarers endure miserable, life-threatening conditions on substandard vessels. Many of the detentions by Port State Control Authorities involve ageing and badly maintained FOC vessels that should never have sailed. Many of these ships have been referred to as "floating coffins".

Casualties are higher among FOC vessels. In 1997, 46 per cent of the losses in absolute tonnage terms were accounted for by 8 FOC registers. The top ten registers in terms of tonnage lost as a percentage of the fleet include five FOC registers: Cambodia (1st), St Vincent (5th), Antigua (8th), Cyprus (9th) and Belize (10th).

Poor safety practices and unsafe ships make seafaring dangerous, it is estimated that there are over 2,000 deaths a year at sea. Accidents are frequent. Falling down open hatches, severed limbs, scalds and burns and other injuries to seafarers are often not treated sympathetically by FOC shipowners. The delivery of cargoes and the costs of any delay are their only concerns.

FOCs should be banned. If the facts are considered, FOCs are natural detractors of safety at sea. If something is not contributing to safety at sea, but rather increasing the reality of unsafe seas, it cannot be allowed to continue. The ILO and ITF still continue to fight FOCs.

3.2 THE COASTAL STATE

The *Law of the Sea Convention* puts in place a system of seaward boundaries which extend Coastal State Control to a maximum of 200 nautical miles across the water column and living resources of the continental shelf, or a maximum of 350 nautical miles for non-living resources in the seabed. The legal power of the Coastal State Control in this 200 nautical mile Exclusive Economic Zone (EEZ), ranges from sovereignty in its territorial sea, to sovereign rights to exploitation in the water column up to the 200 nautical mile limit. The Coastal State also has exclusive sovereign rights to the resources on its continental shelf. The essential difference between the territorial sea and the EEZ is the extent to which other states may exercise their right to access and unrestricted navigation through the zones.

UNCLOS III lays down five overlapping maritime zones as follows:

1. Territorial sea, a boundary of 12 nautical miles (nm) from the baseline of a Coastal State.
2. Contiguous zone, a boundary of 24 nautical miles (nm) from the baseline of a Coastal State.
3. Exclusive Economic Zone, a boundary of 200 nautical miles (nm) from the baseline of a Coastal State.
4. Continental shelf, boundary at 200 nautical miles from the shoreline or to a maximum of up to 350 nautical miles in cases where the shelf extends further.
5. The Area, which is the seabed underneath the high seas which extends beyond the continental shelf.

Territorial Sea

In the territorial sea foreign vessels are permitted “innocent passage” for the purpose of peaceful navigation. A Coastal State is not permitted to hamper innocent passage of foreign vessels in its territorial sea. It may pass legislation consistent with international law regarding safety issues including traffic lanes; safety of navigation;

conservation of living resources; prevention of pollution of the marine environment; laws relating to preventing infringement of customs; fiscal, immigration and military regulations; and laws regarding marine and scientific surveys.

Contiguous Zone

In the 2 nautical mile zone contiguous to its territorial sea the Coastal State is permitted to exercise control necessary to prevent and punish infringements of its customs, fiscal, immigration and sanitary laws and regulations where the infringement has been committed in its territory or territorial sea.

Exclusive Economic Zone

Upon declaring a EEZ in waters up to 188 nautical miles adjacent to its territorial sea, the Coastal State has sovereign rights for the purpose of exploring and exploiting, conserving and managing the non-living and living resources of the sea bed.

The water beyond the 200 nautical mile from baseline is considered high seas. Every state, whether coastal or land-locked has the right to sail ships flying its flag on the high seas. These rights carry with them certain duties for the Flag State to which they accord nationality. These duties are described under Flag State Control.

3.3 PORT STATE CONTROL (PSC)

Port State Control is imposed on a national maritime authority who is responsible for promulgating laws and regulations and for taking all other steps necessary to give the applicable conventions full and complete effect so as to ensure that a ship is fit for the service for which it is intended and seafarers are qualified and fit for their duties.

In accordance with international conventions, authorities may conduct Port State inspections on any ship that enters territorial waters, or wishes to enter a port.

An inspection will cover aspects as follows:

- Load lines assignments
- Life-saving appliances
- Fire safety
- Regulations for preventing collisions at sea
- Cargo Ship Safety Construction Certificate
- Cargo Ship Safety Radio Certificate
- Control under provisions of STCW
- Inspections of crude oil washing operations
- Communication
- Abandon ship drills
- Fire control plan
- Bridge operation
- Cargo operation
- Operation of machinery
- Manuals and instructions
- Dangerous goods and harmful substances

Each of the above-mentioned are conducted in accordance with an international convention or regulation and, if the Port State inspection is unsatisfactory, the authority may detain a ship until the problems are solved satisfactorily.

It is obvious that an authority cannot inspect every ship entering a port or their territorial waters, but by doing continuous Port State inspections, they can reduce the number of substandard ships operating in their waters and, by doing that, increase the level of safety in their waters.

Port State Control in South Africa is enforced by the South African Maritime Safety Authority (SAMSA). Since its formation, SAMSA has increased the number of PSC inspections from 5% of ships in SA waters to about 15% and in Saldanha and Richards Bay these percentages are even higher. Due to the extreme costs involved in PSC, SAMSA is doing very well and is striving to increase these percentages even more.

CHAPTER 4

4.1 SOUTH AFRICAN MARITIME SAFETY AGENCY (SAMSA)

The South African Maritime Safety Authority (SAMSA) is the internationally recognised competent authority on maritime matters representing South Africa in the international arena and in IMO.

The mission of SAMSA:

"Our main functions are to ensure shipping safety and to supply pollution services which entail the safeguarding of life and property at sea and the prevention of pollution of the sea by ships. This is achieved by applying internationally-accepted safety standards enforced by legislation and by maintaining an oil pollution contingency plan in conjunction with the department of Environment Affairs and Tourism" (<http://www.transport.gov.za/docs/samsa.html>).

SAMSA has not grown significantly in size since its inception on 1 April 1998. It has, however, drawn much-needed technical expertise to fill the ship surveyor vacancies which existed before April 1 1998. This resulted in increased technical capacity and enabled SAMSA, in a very short time, to concentrate and improve its core activities of ship safety, pollution control and the development of seafarer training and manning standards (<http://www.transport.gov.za/docs/samsa.html>).

In support of improved technical capacity, SAMSA has developed a statistical programme which focuses on ship detentions, pollution prevention matters, Port State Control inspections and accidents.

The functions of SAMSA are as follows:

- Prevention of pollution
- Ship surveys
- Manning of ships
- Management of casualties
- Conferences, Committees and Organisations
- Search and Rescue

Prevention of pollution

The South African Maritime Safety Authority is responsible for maintenance of legislation and for enforcing acts, conventions and regulations on behalf of the South African Government, to prevent pollution in South African waters. This is achieved by the continual enforcement of Port State Control.

Ship surveys

SAMSA manages and exercises control over the inspection of ships to ensure that they meet with international and domestic safety standards with reference to statutory ship surveys, cargo surveys, evaluation and approval inspections, port state control, consultancy and licensing. Furthermore, to promote safety of life and property at sea and contribute to the global eradication of substandard shipping. A levy is being raised against all ships calling at South African ports and SAMSA charges market-related fees for statutory and classification surveys (<http://www.samsa.co.za>).

Oversee international manning standards

SAMSA oversee that personnel of ships entering South African waters are trained and qualified in accordance with domestic and international standards. This is done according to the STCW convention rules and enforced by means of Port State Control.

Management of casualties

SAMSA is responsible for the control over marine and occupational casualties to prevent loss of life and property at sea and the recurrence of such casualties. SAMSA is also responsible for the removal or disposal of wrecks which might become hazardous to other ships along the South African coastline.

Conferences, Committees and Organisations

SAMSA has the responsibility, as the appointed government agency, to participate in national and international events and organisations and to discuss maritime matters of importance on behalf of the South African Government in accordance with the Maritime Safety Authority Act of 1998. This also includes representation to the IMO.

Search and Rescue

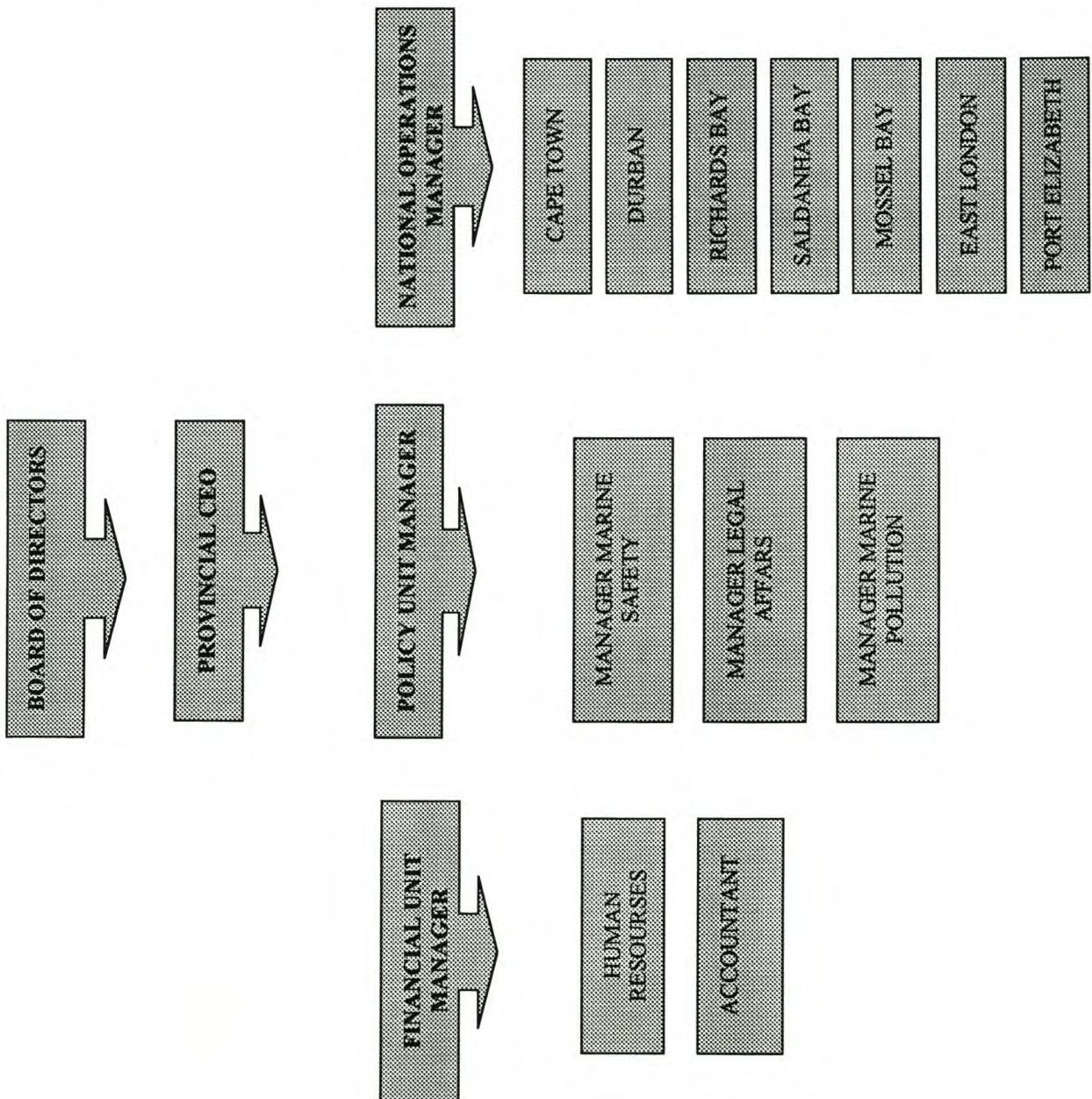
SAMSA will co-ordinate search and rescue operations in order to assist distressed people at sea. Although the role-players for search and rescue includes the SA Navy, SA Airforce, Portnet and Pentow Marine, SAMSA will take overall responsibility to administer the search and rescue.

Organisation of SAMSA

The functions of SAMSA are performed by dedicated personnel under the direction of a Chief Executive Officer, stationed in a Pretoria head office which is linked to marine offices at each of the seven commercial ports of South Africa. The designated functions address operations, policy and finance and are in turn assigned to three unit managers who co-ordinate the functions of SAMSA. Figure 4 shows the structure of SAMSA and indicates which manager is responsible for each function.

Figure 4: SAMSA Organogram

(Source: <http://www.samsa.co.za>)



The following are functions performed by SAMSA to enable them to achieve maritime safety in South African waters:

Surveys, detentions and prosecutions in respect of ship safety and oil pollution prevention, including crew safety and welfare safety surveys

Through the survey and inspection of ships entering South African waters, SAMSA applies domestic and international legislation on these ships, thereby ensuring the safety of life at sea and the protection of the marine environment.

Using international legislation and a Port State Control procedure, SAMSA inspects foreign flagged ships calling at SA ports, thereby assisting in the global initiative to rid the seas of substandard ships. The activity strives to meet the 25 % standard set by the IMO. With the application of domestic safety legislation SAMSA strives to improve the safety of stevedores and the welfare of seafarers.

Management of marine incidents, casualties, wrecks and participation in search and rescue

This activity entails the management and overseeing by technical personnel of marine casualties, incidents and wrecks, as well as participation in the co-ordination of search and rescue operations off the SA coast, including the Namibian coast. It includes an annual grant to the National Sea Rescue Institute (NSRI). It is important that the services of the NSRI continues in South Africa and that SAMSA make provisions for state subsidy for the NSRI. The reason for this is that they provide a search and rescue service around the coast of South Africa, not only in the big ports areas but also in the small harbour areas of South Africa (<http://www.samsa.co.za>).

The search and rescue is performed in compliance with SA's international responsibilities in terms of statutory obligations such as the Safety of Life at Sea (SOLAS) Convention, the International Convention on Maritime Search and Rescue, the Wreck and Salvage Act, 1996 and the Marine Pollution (Prevention of Pollution

from Ships) Act. This activity is meant to achieve a fast, co-ordinated reaction of dedicated resources for the safety of life and the containment of disasters and incidents at sea.

Control of standby tugs and pollution stores

This activity is performed to fulfil the Department of Transport's (DoT) responsibility in terms of the Marine Pollution (Control of Civil Liability) Act 1981 (Act No 6 of 1981), and is meant to:

- provide assistance to ships which develop engine or other problems along the SA coast and to prevent them from stranding; tow ships which have collided or have been damaged to safety, or to tow them to places where the danger of damage to the marine ecology from oil pollution will be prevented or minimised;
- ensure pollution prevention through effective ship-to-ship transfers with the utilisation of dedicated oil pollution prevention equipment; and
- ensure that the alignment of functions and responsibilities between the Department of Transport and the Department of Environmental Affairs and Tourism are well defined and functional.

This entails the management of the agreement between Department of Transport (SAMSA administrates this agreement on behalf of the DoT) and Pentow Marine, a tugboat contractor. The two standby tugboats at present in use are amongst the most powerful in the world and are equipped with salvage gear, modern fire fighting, diving and oil pollution spraying equipment. They are also capable of carrying large quantities of oil dispersants on board. The DoT is also responsible for the maintenance of three oil pollution prevention stores in Cape Town, Durban and Port Elizabeth and the procurement of associated equipment.

Maintenance of Seafarers: Standards of training and manning criteria

This aspect is discussed as an “employment issue” in the White Paper on Transport and entails consultation with members of the maritime industry for the drafting of regulations which control the standards of all marine qualifications. In this regard, the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended in the 1995 (STCW) Code, is adhered to.

Shipping administration, including legal drafting, safety, pollution administration and general administration (personnel, finance, provisioning and training)

These activities are performed to provide head office and the seven marine offices with an efficient administrative support service to enable the line functions to be carried out more effectively. It involves the effective management of all logistic and personnel resources and activities such as:

- policy development;
- administration of legislation;
- management of international matters such as multilateral and bilateral agreements and international conventions;
- human resource management;
- financial administration; and
- provisioning administration.

Vessel traffic management, including routing and navigation aids

This activity is carried out in order to ensure the safe navigation and effective management of vessel traffic around the South African coast and entails the monitoring of the service provided by Telkom on behalf of the Department of Transport, which, by agreement, provides for radio and satellite communication

services covering distress signals and the receipt and transmission of Maritime Safety Information (MSI).

The MSI contract with Telkom was amended, incorporating a Cospas/Sarset Land User Terminal (LUT) installation and operating clause. The LUT was commissioned during 1998 and will enhance search and rescue in the Southern African region and the adjacent areas.

The South African Voluntary Ship Reporting System (SAFREP), is an automated ship route reporting and plotting system used to enhance search and rescue at sea and is currently under trial. The system is operated by SAMSA, together with the SA Navy, Portnet and Telkom. The introduction of Ship Reporting Systems is an international safety measure which is supported by the IMO.

Registration of ships

The registration of ships is discussed under “Ship Financing, Registration and the Fiscus” in the White Paper on Transport, and entails the introduction of the Ship Registration Bill and Mortgages Bill through Parliament and its successful introduction thereafter, including the drafting of new regulations. It is intended to encourage SA ship owners to register their ships under the SA flag and also encourages foreign ship owners to use the SA flag.

At present, only 6 commercial ships are registered as South African. This number excludes all fishing vessels, tugs and pilot boats, all research vessels and pleasure crafts that are forced by law to register on a shipping register.

Acquisition of Shipping Information Statistics

This activity entails the acquisition of shipping safety statistics and information on vessel arrivals at SA ports, to be used as management information for SAMSA.

It is also meant to provide information which will assist with the compilation of statistical reports to enable short-, medium- and long-term planning to be done more effectively. This is done by collecting shipping statistics from PORTNET and the 7 Marine Offices in Cape Town, Port Elizabeth, East London, Durban, Richards Bay, Saldanha Bay and Mossel Bay.

This comprises information such as:

- the number of vessels inspected and the flags they fly, and the results of the inspection;
- the statistics on the number of ships using a certain port in a season and the results of their inspections;
- statistics on routes used to enter South African ports and the country of origin, to determine the standard of Port State Control from that country.

By collecting these statistics, it is possible for an agent of SAMSA to evaluate a ship coming from a particular region beforehand, to decide what form of inspection will be most efficient. This will enable the agent to act quickly and probably more cost effectively. The statistics will also be used to determine the effectiveness of Port State Control procedures and the monitoring of safety standards.

4.2 INTERNATIONAL SAFETY ORGANISATIONS EQUIVALENT TO SAMSA

The Australian Maritime Safety Authority

The Australian Maritime Safety Authority (AMSA) is a largely self-funded government agency with the charter of enhancing efficiency in the delivery of safety

and other services to the Australian maritime industry. AMSA pursues IMO guidelines in the efficient provision of highly effective maritime safety, search and rescue, and marine environment protection services.

They achieve this by continuing to develop their understanding of, and relationship with, their stakeholders (especially the Australian Government, the community and the maritime industry) and by applying the latest in management techniques, organisational systems and technology to meet their needs (<http://www.amsa.gov.au>).

AMSA achieves high levels of maritime safety by having introduced a maritime and environmental safety strategy and the instruments they use are Flag State Control and Port State Control, the principles of which have been described previously. Other areas of note for enhancing maritime safety include:

- Advancement of prescriptive drug and alcohol standards for vessels in Australian waters;
- Development of Australian regulations dealing with pollution from air emissions and sewerage from ships;
- Safety implications of strategies for dealing with ballast water exchange;
- Investigation of stress, fatigue and health issues amongst seafarers;
- Standards for the operation of helicopters on vessels; and
- Policy issues involved with Bridge Team Management and the impact of reduced crews on vessel safety. (<http://www.amsa.gov.au>)

Australian Search and Rescue (AusSAR)

AusSAR co-ordinates both maritime and aviation search and rescue operations within Australia's formally declared area of responsibility covering some 47 million square kilometres (or about one ninth of the earth's surface). While State and Territory Governments are responsible for fishing vessels and recreational craft, they may transfer co-ordination of particular incidents that are beyond their capabilities to AMSA.

AusSAR also operates Australia's search and rescue communications capability for aviation and maritime incidents.

In accordance with relevant international Conventions, AMSA maintains and operates the Australian Rescue Co-ordination Centre and provides associated maritime communication services through the coast radio stations and satellite communications systems.

National Plan and Funding of AMSA

The National Plan to Combat Pollution of the Sea by Oil was inaugurated in 1973 and provides for the integration of Commonwealth, State and oil industry resources. These resources are held by various Commonwealth, State and Northern Territory authorities and organisations and may be made available as required according to the nature and scale of an oil pollution incident. These arrangements apply to action taken by the authorities to prevent and clean up marine oil pollution from ships in Australian waters and within State and Territory limits (<http://www.amsa.gov.au>).

The National Plan is based on the "polluter pays" principle and, to achieve this, a levy similar to that applied to maintain navigational aids is imposed on commercial shipping using Australian ports. It is difficult, however, to determine who the polluter will be, so in stead of charging the polluter, AMSA enforces a levy on the potential polluter, which includes every one using their ports. It is difficult to determine the polluter but the concept of "polluter pays" is a way of allocating charges.

Marine and Coastguard Agency (MCA). The Department of Environment, Transport & Regions (DETR) UK

The Marine and Coastguard Agency (MCA), an Executive Agency of the DETR, is responsible for marine safety. The agency's duties include oversight over the seaworthiness of vessels and matters concerning their construction and stability, equipment, carriage of dangerous goods, navigational safety, safe manning and

certification, the prevention of pollution and the health, safety and welfare of seafarers. This is achieved mainly by exercising Port State Control.

Marine Surveyors of the MCA enforce Merchant Shipping legislation and administer international marine safety conventions together with related Codes of Practice. They are responsible for:

- the survey and certification of safety equipment on vessels;
- in some cases, the survey of vessels' structures;
- inspecting crew accommodation and related matters;
- inspecting the arrangements on vessels for dealing with the prevention of pollution;
- random general safety inspections of vessels, both UK and foreign;
- random inspections of the condition, loading, stowage and securement on vessels of packaged dangerous goods, including tank containers and motor tank vehicles, and this includes inspection of goods offered for shipment on such vessels;
- inspecting ship board operational arrangements for the loading and unloading of oil / chemical / gas tankers and offshore support vessels;
- inspecting arrangements relating to the occupational health and safety of seafarers;
- safe manning and the certification of crews; and
- ISM accreditation and auditing (including non UK vessels).

Conclusion

What does SAMSA, AMSA and the DETR have in common? As recognised international organisations, they all look after maritime safety in their respective countries. South Africa, Australia and England are all active members of the IMO and all three countries enforce the conventions of the IMO through the working of their organisations, namely SAMSA, AMSA and the DETR. Common factors used by the organisations are Port State Control and Flag State Control. By enforcing these controls, the organisations use the tool to provide the cornerstone to achieve maritime safety.

It is important to note that the work of SAMSA is in line with the work of these agencies. The conventions they enforce and the strategies used are in line with international standards and expectations. It is safe to say that SAMSA is on track in maintaining maritime safety in South African waters.

CHAPTER 5

5.1 SAFETY IN PORTS

All ports are confronted with problems relating to the environment and safety. These problems start at the development stage of a port with the problem of location, construction works (quays, dredging, etc.) and attracting the necessary industry. The environment in and around a port will be influenced by pollution from ships and activities within a port. Pollution from ships are mostly caused by ballast water and fuel or bunker leaks or spills. Ships that have taken ballast water for a journey and then, at the port of destination, wants to de-ballast to load cargo, will most likely cause bacterial pollution in the environment. This problem is regulated by international law that states that a ship may only de-ballast 50 nautical miles from the port of destination. But if this is not enforced aggressively, it might lead to the pollution of the environment.

There is a cost involved in keeping ports clean from pollution and, the port authority should have a contingency plan to combat pollution, and this leads to the external costs of providing a service like this.

The most relevant aspects to this assignment is the safety in a port. The activities related to safety in ports are as follows:

- Navigational safety; this include the use of radar, satellite, lighthouses, fog horns and signal lights.
- Ship safety; this will include tugboat and pilot services and docking activities.
- Cargo handling; the loading and unloading of bulk, break bulk and container vessels.
- Worker safety; where the safety of the crew, stevedores, crane and truck drivers are of importance.

Countries such as the United Kingdom have legislation that enforce a Health and Safety Act to ensure that the safety of workers are ensured in the workplace. This is a tool that can help authorities to regulate safety in a port environment.

Safety and environmental aspects have an impact on the generalised costs of a port and the issue involves who should ultimately pay for the costs.

5.2 SAFETY IN SOUTH AFRICAN PORTS

Portnet tries to maximise the level of safety in South African ports. This is done with the full assistance of SAMSA, who has an agent in each of the seven commercial ports in South Africa. Safety is achieved by means of Port State Control, as described in chapter three, where SAMSA strives to inspect 15 – 25% of ships that use a South African port.

Following, is an example of the cost of Port State Control in terms of the “*knock-on effect*” of a ship that is detained by SAMSA because of an unsafe vessel: SAMSA will go out to inspect a ship, the surveyor will decide whether the ship conforms to the rules of international conventions. If the ship is detained, it will be put under arrest and it must be taken to the port. That cost is carried over to the shipowner, and the vessel is not allowed to leave the port before the ship is safe again. Port charges and daily rates will be charged to the owner. When the berth is needed for another ship, the ship that has been detained must be moved to another berth that is open. The cost of moving the ship is carried over to the shipowner, but the other vessel that had to wait for a berth is accumulating costs while waiting. The unsafe vessel is responsible for the accumulation of costs, which the end user has to pay for, which could have been avoided if it had conformed to international rules and regulations (<http://www.samsa.co.za>).

The accumulation of costs in this example is as follows:

- Cost to SAMSA for doing inspection
- Cost of the tug and pilot for assisting ship with entry into port
- Cost accumulating because the berth could have been used for other purposes
- Cost of moving the ship, should that berth be used for another ship
- Cost for ships waiting outside port because the berth is not available immediately
- Cost of administration involved

It is possible to put a Rand value to each cost mentioned, but it is clear that the substandard ship caused the shipowner, port authority and other users of the port a lot of money. This could have been avoided if the ship had been safe, or if SAMSA did not let the ship enter port. This, however, is not always possible, because SAMSA is responsible for safety in South African waters and if they do not act accordingly, it might lead to an accident and this could result in safety hazards for other ships, or marine pollution, and the accumulation of those costs can be astronomical.

In addition to all this, ships and equipment have become more complex, and there have been enormous changes in the size of ships. The protection of the environment was scarcely an issue in the past, but today we understand that it is crucial to our future. Add to this the some 120 million tonnes of crude oil that pass our shores annually, and the necessity for professional Shipmasters and competent crews becomes more urgent.

SA has joined many countries around the world in the endeavour to minimise the risks created by substandard ships and crews. This has been done through involvement in the Indian Ocean memorandum of Understanding on Port State Control.

CHAPTER 6

INSTRUMENTS FOR MARITIME SAFETY

SAMSA uses instruments to achieve maritime safety in South Africa. The following is a description of the tools and instruments that SAMSA would use to achieve maritime safety.

Maritime Navigation

Maritime Navigation, at the present stage of its development, involves the use of one or more of the following methods:

- Dead reckoning based on the calculation of the direction of movement, speed and time elapsing from a known position
- Pilotage, requiring the determination of the craft's position or line of position by reference to geographic features or aids to navigation
- Terrestrial navigation based on information from earth-based aids to navigation
- Radio navigation using radio waves for determining a craft's position or line of position
- Satellite navigation using radio waves transmitted via orbiting or geostationary satellites
- Radionavigation involving the use of radio waves to determine the distance and direction of an object reflecting the waves to a transmitter.

Notwithstanding the rapid advances in the technological development of aids to maritime navigation in recent years, most aids in use still comprise the traditional visual aids such as lights, buoys and beacons. Traditionally, lights, buoys and beacons have been provided for inshore and coastal navigation up to 20 nautical miles from the coast.

For distances between 20 and 200 nautical miles, electronic devices such as the Decca Navigator were used but it was disconnected in 1999. Today satellite navigation in the form of INMARSAT and the Global Positioning System (GPS) and Differential GPS system are being used more frequently and it is likely that the traditional aids to navigation will in future be required for coastal navigation only.

Funds for Navigation Aids

The source of funds for the provision and maintenance of maritime navigation aids is a matter of policy. In some countries, notably the United Kingdom, funds for expenditure on navigation aids are obtained from users by levying dues on ships entering or leaving the ports according to the gross tonnage of the vessels. Other countries, notably France, afford navigation aids entirely from general taxation. Several countries raise the funds needed through user charges as well as taxation. In South Africa, a levy is charged to every port user. The levy is calculated on a fee per ton for the big vessels, which is R5.05 per 100 tons or part thereof, and the smaller vessels like fish trawlers, are charged per length of the vessel at R2.45 per meter. Both these charges exclude Value Added Tax (VAT).

According to the International Association of Lighthouse Authorities, which analysed the sources of the funds of 40 of its members in 1991, 17 were dependent on general taxation, 13 relied on user dues, while 10 obtained funds from users as well as through general taxation.

Most of the countries which fund navigation aids through general taxation do so in order to lower port charges and improve the competitiveness of their ports. This is

often essential when the capital costs of new navigation systems are too high to allow recovery from users without raising excessive charges, which would deter traffic from the ports of the country raising the charge.

Maritime Communication Facilities

The Government of the RSA is a member of the International Telecommunications Convention of 1982 and is responsible for establishing channels and installations necessary to carry on the rapid and uninterrupted exchange of international telecommunications. The international telecommunication services must give absolute priority to all communications concerning safety of life at sea and must accept distress calls and messages with absolute priority.

Before 1 October 1991, the Government department responsible for the purpose of complying with the terms of the International Telecommunications Convention of 1982, was the Department of Posts and Telecommunications.

Since that date, Telkom SA Ltd has assumed the responsibilities defined by the Convention, as a private operating agency for the provision of telecommunication services, but the ultimate responsibility remains with the Department of Posts and Telecommunications, on behalf of the Government as a member of ITU.

Responsibilities in terms of SOLAS-Convention

Telkom now owns the radio communication infrastructure previously owned by the Department of Posts and Telecommunications. This includes four manned radio stations at Walvis Bay, Cape Town, Port Elizabeth and Durban respectively, to which are connected twenty-three unmanned VHF stations and fifteen 2MHZ radio telephone stations. All the stations in this network have the dual function of carrying revenue earning public correspondence while fulfilling distress and watchkeeping functions, and broadcasting navigation warnings and weather forecasts.

Certain watchkeeping functions in terms of the ITU Radio Regulations are undertaken on behalf of the SAMSAs in order to comply with the Safety of Life at Sea (SOLAS) Convention. SAMSAs, which is the functionary of the Government for this convention, remunerates Telkom for the service. The broadcast by the coastal stations of weather forecasts for the Weather Bureau, navigation warnings for the Hydrographer or for Port Captains, is also undertaken at pre-determined charges.

Global Maritime Distress and Safety System (GMDSS)

Provision is also made in the ITU Radio Regulations for the introduction of the Global Maritime Distress and Safety System (GMDSS) in terms of the Amendments to the SOLAS Convention whereby the existing radio communication services for safety of life at sea will be complemented by satellite communications within the coverage of the INMARSAT geostationary satellite.

Although Telkom maintains that the additional services may be introduced at its discretion as the private operating agency, it is in fact the Government as the responsible administration which must decide on the implementation of the GMDSS programme. This was commenced on 1 August 1993 in terms of an arrangement between the Department of Transport and Telkom.

CHAPTER 7

7.1 MARINE INSURANCE

Marine insurance forms an important part of maritime safety, in that it determines which companies and which trades are safety conscious. This means that insurance companies in conjunction with Lloyds' Underwriters, for example, determine the risks involved in insuring freight transported by individual shipping companies and freight forwarders. Ship seaworthiness is one of the most important aspects that can void any marine insurance contract. This is also the single most important consideration for shipping companies to adhere to in the new ISM Code. Marine underwriters will not agree on marine insurance if the applicant does not comply with that standard.

In describing marine insurance and the type of insurance available, the connection between marine insurance and an improved maritime safety level will be discussed.

The general principles of marine insurance are the same as those of other types of insurance in that there are two parties: the assured and assurer (or carrier). The assured or insured agrees to pay a premium and the insurer agrees that, if certain losses, or damage, occur to certain interests of the insured, the insurer will indemnify the insured. The similarities pretty much end here. The complex circumstances involved in sea voyages require very specific arrangements for the provision of marine insurance. The fixing of rates and special conditions, for example, require a vast knowledge of the nature of vessels and cargoes and of the conditions of navigation (<http://www.lr.org.html>).

The marine policy may cover the risks of a single voyage, or may insure for a certain period of time. Cargo is almost always insured by voyage. Vessels are usually insured for a certain duration of time, usually year by year. Cargo policies may deal with a single lot or may be open to cover cargo as shipped by the insured. Hull insurance, or vessel insurance, may cover a ship or a whole fleet.

Typical of marine insurance, is the principle that no contract of marine insurance is valid unless the insured has an insurable interest in the subject matter at the time of loss. The term insurable interest has been variously defined. According to the English *Marine Insurance Act* of 1906, "every person has an insurable interest who is interested in a marine adventure.... a person is interested in a marine adventure where he stands in any legal or equitable relation to the adventure or to any insurable property at risk therein, in consequence of which he may benefit by the safety or due arrival of insurable property, or may be prejudiced by its loss, or damage thereto, or by the detention thereof, or may incur liability in respect thereof" (<http://www.lr.org.html>).

Another important issue in the marine insurance area, is misrepresentation or concealment. The marine insurance contract is one which requires the highest degree of good faith. Any misrepresentation of a fact which is material to the underwriter will void the policy. In addition, a policy can be void for breach of any of the warranties implied by law or expressed in the policy. The most common is the implied warranty of seaworthiness of the insured vessel or of the vessel carrying insured goods. Seaworthiness is a general term but is has been narrowed by case law. A ship which is seaworthy for a southbound voyage may not be so for a transatlantic crossing in winter. Similarly, in cargo policies, the warranty of seaworthiness of the vessel includes fitness to carry a particular cargo (<http://www.lr.org.html>).

In voyage policies, the doctrine of deviation states that the underwriter is deemed to have intended to accept only that risk that inheres in the expeditious prosecution of the voyage by the usual commercial route. If the vessel departs from the route, or delays unreasonably in pursuing the voyage, without justification, the policy will be voided. Once voided by a deviation, the insurance contract is cancelled for good and not restored by a return to the proper course. Whether or not a ship has deviated is a question which is either settled by the policy or by usage.

The main risks insured against in a marine policy are stated in the "perils" clause which is often supplemented by the "specially to cover" clauses, or restricted by provisions eliminating one or more of the insured risks. The traditional "perils" clause is contained in the First Schedule of the *British Marine Insurance Act* of 1906 from

Lloyds' policy. It reads as follows: *"Touching the adventures and perils we the assurers are contended to bear and to take upon us in this voyage: they are of the seas, men-of-war, fire, enemies, pirates, rovers, thieves, jettisons, letters of mart and countermart, reprisals, takings at sea, arrests, restraints, and detainments of all kings, princes and people, of what nation, condition or quality soever, barratry of the master and mariners, and of all other perils, losses, and misfortunes, that have or shall come to the hurt, detriment or damage of the said goods and merchandises, and ship, &c., or any part thereof"* (<http://www.lr.org.html>).

More recently, war risks have been removed from ordinary marine policies and are covered by separate war risk policies. Ordinary marine policies no longer mean what they state and only cover those risks which are not excluded by the F.C. & S. (Free of capture and seizure) clause. Among the perils "of the seas" that are deemed to be covered under a marine policy are the extraordinary action of the wind and waves, collision, foundering, stranding, striking on rocks and icebergs. Not covered are ordinary wear and tear and losses which can be anticipated as regular incidents of sea carriage or navigation.

Hull policies, that is policies insuring ships, used to be quite specific as to the risks they covered. Modern policies are written to cover most forms of liability. A "collision and running down" provision is contained in the standard hull policy to cover liability incurred for damage to another vessel or structure, and sometimes even personal injuries incurred. The Protection and Indemnity policy offers cover against collision liability not covered by the "collision and running down" clause, as well as against all other liability exposure.

Most marine insurance policies are "agreed value" policies which means that the insured and the underwriter have already set a value for the insured vessel. It should be noted that, in the pleasure boating industry, boats can be insured either under a yacht policy or a boat policy. A boat policy, much like insurance policies in motor vehicles, does not set an agreed value and in the event of loss depreciation is usually deducted from the amount the insured will recover. Pleasure boat policies are usually written to cover a certain geographical area. On the East Coast of America, for example, the area may be Maine to North Carolina. Or it may cover two or more

regions. It is important to understand, however, that while most policies cover the entire United States and sometimes even Canada for occasional trips, the yacht must be based and principally operated within the region selected in the policy. In other words, a cruise to Florida from the mid-Atlantic region is not a problem in most policies. Moving the boat to Florida for six months, however, definitely would be (<http://www.lr.org.html>).

7.2 TYPES OF MARINE COVERAGE

Marine Underwriters offer various types of coverage for various types of risks. Below is a brief list of some of the coverage they offer:

- Hull & Machinery - Covers the vessel, engines and equipment.
- Protection & Indemnity - Covers vessel liability, including crew.
- Breach of Warranty
- War Risks
- Cargo Insurance - Inland or ocean-going cargo
- Pollution Insurance
- Mobile Equipment
- Marine Liabilities

7.3 LIABILITIES OF COVERAGE

The following are risks which the insurer will protect or indemnify the insured. Protecting risks will be covered in full relating to the policy, but the indemnity risks will be indemnified to the discretion of the insurer with reference to the insurance policy.

Risks which the underwriter will cover:

Protecting Risks

- Loss of Life, Personal Injury and Life Salvage claims in respect of members of the crew and third parties.
- Hospital, Medical, Funeral and Repatriation Expenses (including owners' liabilities for wages) in respect of sick or injured members of the crew.
- Repatriation Expenses, Unemployment Indemnities and Loss of Effects of Shipwrecked Crew.
- Stowaways, Deserters and Refugees.
- Extraordinary Expenses incurred in cases of outbreak of Plague or other disease and Quarantine and disinfection expenses.
- Loss of, or damage to, any other ship, boat or craft, or to property on board them so far as not covered by the usual form of Lloyds' policy with the Institute Time Clauses Hulls, including the Running Down Clause.
- Damage to any other vessel or property thereon without actual contact.
- Damage to docks, piers, jetties, buoys, cables, or any other objects of a like nature, and property thereon.
- Cost of compulsorily raising, removing or destroying the wreck of the entered ship or any other ship sunk in collision with and by the fault of the entered ship.
- Loss or Damage for which a Member may become liable under an Indemnity given to the owners or operators of Tugs, Craft, Cranes or other appliances used for towing, loading or discharging, etc.
- Oil or any Polluting Substance escaping from an entered ship resulting in loss, damage or contamination for which the Member may become liable.
- Four-Fourths Collision Liability cover is available by special arrangement.

Risks which the underwriter will indemnify:

Indemnity Risks

- Claims for Loss, Short Delivery or Pilferage of or Damage to Goods intended to be, or being, or which have been carried in the entered ship, including, by special arrangement, claims under a Contract of Through-Carriage.
- Fines imposed by Government or Custom Authorities in respect of short or over delivery of cargo, Smuggling, Breach of Immigration Regulations, etc.
- Cargo's proportion of General Average and/or special charges not recoverable by reason of a breach of the contract of carriage.
- Ship's proportion of General Average and Salvage Charges not otherwise recoverable by reason of excessive valuation of the ship in a foreign country.
- Other claims, losses or damages incident to the business of shipowning which the Committee consider to come within the scope of the Association.

CHAPTER 8:

8.1 SUB-STANDARD SHIPS DRIVE GOOD SHIPS OUT OF CIRCULATION

Price and cost are the two determinants why substandard ships do exist. Owners trade and make profits, and thus eventually drive good ships out of circulation, because substandard ships price themselves below ships which meet regulatory and social requirements. Shippers who are sensitive to low prices demand their services. From previous studies it has been said that the shipper rarely knows the probability of an accident nor the difference in safety and pollution standards among ships or owners. Since price is transparent, it is the main criterion for selecting ships.

Cost allows owners to operate substandard ships because it is profitable for them to do so. There are cost advantages in taking shortcuts, like failing to maintain safety equipment and procedures, employing cheap and untrained crews, repairing only essential equipment on breakdown, dumping pollutants at sea, contaminating and letting P & I club members pick up the bill. The cost of meeting the ever growing body of regulations is substantial and ship operators find it difficult to keep costs low and compete against low tariffs.

The penalties for substandard shipping, if they exist, are very small compared to the advantages obtained from non-observance, and the operating cost advantage of the substandard ship over the legal minimum standard is 17%, while the advantage over a good ship is 36%.

The dilemma is, good ships follow the regulations and pay the cost while substandard ships take shortcuts and become more competitive. The more substandard ships can reduce their price relative to good ships, the greater the demand for substandard vessels. Another reason for substandard shipping is low freight rates. Even if ships

are willing to comply with international regulations, is it almost impossible to do so and stay in business.

8.2 QUALITY OF SHIPS

Talk to shipowners and captains and they all would want to have new ships on a regular basis, but because of the astronomical costs of new ships, is it rarely possible. Shipping is a cost-efficient transport service and thus does not justify the frequent investment in new ships, but when discussing cost efficiency, a major factor is the purchase price of the ship, its economic life and its end value.

Charterers are responsible to their shareholders and insist on the most competitive freight rate for the safe transport of their goods. For similar reasons, owners strive to improve their efficiency and cost structure to maximise profits.

The choice of ship rests with the shipowner and the shipyard must build it according to international regulations. It is Classification Societies that have the final say, because they classify a ship according to certain criteria, as mentioned in chapter three, and they must see to it that shipyards keep to these regulations.

The quality of any ship is determined by the quality of its design and construction plus the maintenance it has received since construction. A well maintained, quality-built ship is cost efficient in the long term. Yearly, or even monthly quality maintenance prolong the lifespan of the ship but saves money for the owner over the total lifespan of that ship, it will even enlarge the value of the ship, should it be sold on the second-hand market.

Poor maintenance results in substandard, unsafe ships. Other than poor design, the common denominator of all structural or engineering problems on board all ships is lack of maintenance.

Ships that have degenerated to the extent of their being substandard should be rooted out of the market and sold as scrap, and not sold to operators who are willing to operate these substandard ships. This should be done on a ship-to-ship basis.

8.3 FLAGGING OUT

Flagging out is a term used to indicate that a shipowner registers his ship or ships under ship registers different to that of his own country. This might mean that he may have more than one ship registered on different registers. A result of flagging-out is that the international maritime transport industry has, in a way, become anonymous. It has become difficult to identify the true ownership of a vessel, and, for that matter, the accountability for many vessels engaged in sea trading. The flag flown and the port of registration no more conclusively reveal those who are liable. In addition to management by third parties, mortgage banks that have proprietary rights are usually involved, and ship' officers and crew may be citizens of a number of countries. It is therefore not unusual to identify several parties of different nationalities that are associated with one ship.

Successful ship owners finance, register and manage their assets without loyalty to any specific nation or interest group. They have become true internationalists. Their only concern is to ensure that they capture major market shares and achieve the highest possible return on their investments. In an international environment, with an anonymous industry, the highest possible returns require the lowest possible operating costs. Increasing financial pressures exerted on ship owners in recent years due to cost inflation and overtonnaging in many sectors, have forced more and more ship owners to increased cost savings and expenditure cut-backs on safety-related maintenance items, at the risk of violating international rules and standards. This results in shipowners operating substandard ships, on which they can charge lower rates that do not reflect the true operating costs.

CHAPTER 9:

CONCLUSION

Maritime safety in South Africa is important in the sense that it will ensure that the natural resources of the ocean will be preserved and that South Africa will fall within the international framework of safety. The international community expects all nations to put a high premium on safety and will act accordingly; they will support a country that tries to ensure safety or pressurise a country, in the form of sanctions that does not adhere to international rules and regulations.

SAMSA, which has only been in existence since April 1998, will have to prove that they are efficient and cost effective. (Cost effectiveness is one of the important components of safety, because of the financial implications and financial constraints of safety measures on a country or a company.) The future will be of the utmost importance as SAMSA seeks to prove to the international community that they can work efficiently, quickly and cost effectively, and meet the requirements of international standards.

Safer ships and cleaner seas is an idea' that evolved over the past few years, with people involved in the maritime community realising that safety at sea begins with safer ships. Research into the different aspects associated with safe ships and how to maintain safe ships, proved that safer ships will result in cleaner seas. It is an ideal to strive for but it will be difficult to achieve, as there will be operators and countries that do not share this outlook. Countries like America, Australia, England, France are supporting the idea, and in good time the smaller nations and operators will be forced to comply with these ideas and way of doing business.

In conclusion, Maritime Safety can be seen as an international ideal that all participating maritime countries will strive to achieve. This can be achieved by means of international regulation, enforced by legislation. The IMO formulates the regulations and the member countries ratify those regulations to become law. There,

however, is more to it than just legislation. Shippers, shipowners and crews are all responsible for ensuring that they adhere to these rules and regulations. Safety authorities also take on the responsibility to make sure their countries do everything possible to achieve maritime safety. However, without examining all the individual aspects as a whole, maritime safety will not be achieved.

We can say with certainty that more regulation will not bring a higher degree of maritime safety, but emphasis on individual responsibilities might achieve the ideal of maritime safety.

What is an acceptable level of maritime safety? What are consumers willing to pay for that level of maritime safety? Ultimately, the extent of the financial burden determines the level of maritime safety that is desired. If consumers are willing to pay for the highest level of maritime safety, then a ship operator will be willing to provide a service at that level of safety at a price. But will that one ship operator set the standard for maritime safety? Not as long as there are ship operators providing services at lower freight rates with substandard vessels and consumers willing to use those services. It is up to organisations like the IMO to set the standards and enforce them by regulating the maritime environment. Each country has therefore a responsibility to adhere to international rules and regulations to uphold maritime safety.

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