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WORLD MARITIME UNIVERSITY

Malmö, Sweden

**STRATEGIC CHALLENGES FACING
CLASSIFICATION SOCIETIES**

**Possible future scenarios and proposed solutions
for China Classification Society**

By

LIANG JING

China

A dissertation submitted to the World Maritime University in partial
fulfilment of the requirement for the award of the degree of

MASTER OF SOCIEENCE

in

MARITIME ADMINISTRATION AND ENVIRONMENTAL PROTECTION

2000

Declaration

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

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Liang Jing

Abstract

Title of Dissertation: Strategic challenges facing classification industries:
Possible future scenarios and proposed solutions for China
Classification Society

Degree: MSc

With the development of world economy and trade, shipping industry has undergone great changes for the recent years. This trend will be maintained for the years to come.

Classification societies have been playing an increasingly important role in the world maritime circle by setting up technical standards regarding hull and structure of ships, providing technical verification and other related technical services. For the recent 30 years, the International Association of Classification Societies (IACS), the only non-governmental technical organisation holding consultative status with the International Maritime Organisation (IMO), has developed into one of the most widely respected organisations. On the other hand however, classification societies have been facing increasing public criticisms for its involvement in marine accidents.

The topic is to clarify the role of classification societies in the maritime world, examine the interrelationship between classification societies and other maritime partners and the environment of classification societies.

By adopting Strength, Weakness, Opportunities and Threats (SWOT) methodology, the author also tries to examine the environment and development of China

Classification Society (CCS) from various aspects. Finally, the author makes proposals and recommendations for CCS in order to achieve and maintain higher standard of service thus improving its competitiveness in the world market and promoting safety and pollution prevention more substantially.

Key words: classification, survey, safety, and quality

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List of Abbreviations

ABS	American Bureau of Shipping
BV	Bureau Veritas
CAP	Condition Assessment Program
CCS	China Classification Society
CDI	Chemical Distribution Institute
CMI	Comite Maritime International
COLREG 1972	Convention on the International regulations for Prevention Collision at Sea, 1972
COMPASS	Computer-aided Plan Approval Software System
COSCO	China Ocean Shipping (Group) Company
CRS	Croatian register of Shipping
CSSC	China State Shipbuilding Corp.
DNV	Det Norske Veritas
ESP	Enhanced Survey Programme
EU	European Union
FSA	Formal Safety Assessment
FSI	Flag State Implementation
GDP	Gross Domestic Product
GL	Germenscher Lloyd
IACS	International Association of Classification Society
ILU	Institute of London Underwriters
IMCO	Inter-governmental Maritime Consultative Organisation
IMO	International Maritime Organisation
Intertanko	International Association of Independent Tanker Owners
IRS	Indian Register of Shipping
ISM Code	International Safety Management Code
ISO	International Organisation of Standardisation

ITF	International Transport Federation
KR	Korean Register of Shipping
LL 1966	International Convention on Load Line, 1966
LR	Lloyd's Register of Shipping
MARPOL 73/78	International Convention on Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978
MOC	Ministry of Communications
MOFTEC	Ministry of Foreign Trade and Economic Co-operation
MOU	Memorandum of Understanding
NK	Nippon Kaiji Kyokai
OCIMF	Oil Company International Maritime Forum
OECD	Organisation for Economic Co-operation and Development
PRS	Polish Register of Shipping
PSC	Port State Control
QSCS	Quality System Certification Scheme
RINA	Registo Italiano Navale
RS	Russian Maritime Register of Shipping
SARQS	Shipbuilding and Repair Quality Standards
SOLAS 1974	International Convention for the Safety of Life at Sea, 1974
SSMIS	Ship Survey Management System
STCW 1978	International Convention on Standards of training, Certification and Watchkeeping for Seafarers, 1978
SWOT	Strength, Weakness, Opportunities and Threats
TM 1969	Tonnage Measurement of Ships, 1969
TOCA	Transfer of Class Agreement
UI	Unified Interpretation
UN	United Nations
UR	Unified Requirement
USCG	United States Coast Guard
WTO	World Trade Organisation

ZC

Register of Shipping of People's Republic of China

Chapter 1

Introduction

During the past four decades, the shipping industry witnessed a significant change in terms of the setting, as well as the implementation of international standards.

It has long been known that shipping is an international industry. The most appropriate way to improve safety at sea and the protection of the marine environment is through actions on an international basis. The International Maritime Organisation (IMO) has concentrated on developing international standards, cultivating a culture of safety within the shipping industry and ensuring that all of the maritime partners are of the highest practicable quality. These efforts have been successful with growing public awareness of safety and pollution prevention, and increasingly civilised and responsible maritime operations. However, accidents continue to occur, due to inadequacy of safety standards and procedures, lack of awareness of safety standards, human error and unsafe practices under commercial pressure.

There is a circle of involvement with various partners concerned with safety at sea, which makes the task of maintaining standards extremely difficult.

The author attempts to address the safety responsibilities of the major partners in the extremely competitive, multi-faceted shipping market, focusing on the role of the classification society in the complex environment. By examining the development of classification, the author is seeking possible solutions to fulfil shared safety responsibility from the perspective of the classification society.

Classification can be traced back to more than two centuries ago. It is evolutionary and has contributed massively to marine safety thanks to its unique technical expertise and experience. Always at the cutting edge of technology, it has committed to developing and applying technical standards on ship's structure, engineering and electrical systems. Led by the ten Members of the International Association of Classification Societies (IACS), classification societies have gained wide respect, great responsibility and at the same time, increasing criticism.

Through analysis of the inter-relationship between classification societies and IMO, Flag State, Port State and other parties involved in maritime circle, the author is seeking an approach for classification to balance the technical, commercial and political factors which are the main pillars of safety and pollution prevention.

China Classification Society (CCS) is one of the growing classification societies which arouses wide attention among the maritime partners. For a young classification society in a developing country, CCS is faced with great challenges. By adopting strength, weakness, opportunities and threat (SWOT) analysis, the author also attempts to identify the strength and weakness of CCS and propose solutions for CCS to create opportunities and meet the challenges.

Nevertheless, safety has always been a multi-faceted, difficult topic, covering a wide range of problems. Classification has been a contentious factor contributing to these problems. In order to well explain the problems, the author has made extensive and intensive studies of relevant materials and made contacts with some people concerned. Despite all these efforts, such a topic is considered too broad to be addressed fully from any single perspective.

The topic may provide some insight and at the same time present some problems open for further discussion among all that are working towards safer ships and cleaner seas.

Chapter Two

2. The role of classification Societies in the maritime world

2.1 Origins of classification societies

One cannot speak about ship safety and marine environmental protection without remembering the significant role played by classification Societies.

Classification societies came into existence in the 18th century to fulfil a need that was shared by all business interests connected with the operation of ships, i.e. owners, underwriters, shippers, and bankers. They accepted risks in varying degrees and an independent technical verification on the condition and seaworthiness of a ship became a fundamental necessity in seeking methods of reducing some of these risks. Of all the parties concerned, the underwriters probably had the greatest total involvement and it is not surprising that it was the underwriters who took the first steps to "class" ships according to whether the ships constituted good or bad risks from the construction and maintenance point of view.

The first classification society established was "the Register's Society" which was constituted in 1760 in London, providing the cargo owners and underwriters with technical information on the fitness of the ship. Seventy years earlier, the gathering and exchange of shipping information for merchants were carried out in Lloyd's coffee-house, located in modern Great Tower Street in London. Edward Lloyd was the owner of the coffee-house and the Register of Society was renamed Lloyd's Register (LR) later on as a tribute to him.

Following LR, Bureau Veritas (BV) was established in 1825, Registro Italiano Navale (RINA) in 1861, American Bureau of Shipping (ABS) in 1862, Det Norske Veritas (DNV) in 1864 and Germanischer Lloyd (GL) in 1867. At the turn of the last century in 1899, the Japanese classification society Nippon Kaiji Kyokai (NK) was formed. There are others added to the list, including the Polish Register of Shipping (PRS), China Classification Society (CCS), the Korean Register of Shipping (KR), the Croatian register of Shipping (CRS), The Russian Maritime Register of Shipping (RS), the Indian Register of Shipping (IRS) and the Klasifikasi Indonesia, etc.

The first known register of ships was published in 1764, which was a tribute to Edward Lloyd as well. The Register included details of vessel ownership, characteristics and condition but based on unstated and differing standards of the earlier surveys. The notion of "first class" was only valid for the first eight years in the life span of many ships.

In those early days, classification societies were employed and paid by the underwriters for the technical service offered, though later on, it has become a custom and practice for shipowners to pay for class surveys.

In 1834, LR was reconstituted by joining two other British registers and two basic principles were decided and have been followed to this day. One was that the governing body should be representatives of all maritime sectors ranging from shipowner, shipper, underwriter, etc.; the other was that a uniform standard for ship construction and subsequent maintenance should be adopted in the form of written rules.

2.2 Early development

The safety relationship between freeboard and draft was first written in Lloyd's Rule of 1835. In 1853, with the first rules for iron hulls, structural integrity of vessel, in place of age of vessel, became the basis of classification. The first in-works

examination of production steel took place in 1855, while classification of propulsion machinery began in 1880. Class rules for steel ships were first drafted in 1888, and rules for oil-fired ships followed in 1898 --- just a year after the first steam turbine went to sea (J. R. G. Smith, 1999).

As soon as these Rules came into use, it was a natural development to establish permanent qualified staff both in outports and Head Office so that ships could be built under survey and maintained to the prescribed standard on a world-wide basis.

The overall management of classification society was exercised by a governing body that consisted of duly elected representatives from the shipping industry with the prime object of providing an impartial professional service for the benefit of all sectors of the industry. In order to achieve uniformity of practice, outports surveyors' recommendations were submitted to Head Office for vetting.

In short, the function of classification society in those days was to set up and update the technical rules, regulations, standards and guidelines; to examine and approve the plans, and to survey the ship as long as their life within the Register. Data on ship operation and in-service experience gained was built into new design and new ships with continual improvement in strength and safety. This remains unchanged for all these years.

Among those functions, standard-setting and ensuring that the standards are complied with are the main functions of classification society. The standards for the construction and subsequent maintenance of ships are published in the form of Rules. There are a wide variety of Rules, such as:

- Rules and regulations for the classification of ships
- Rules for floating docks
- Rules for inland waterways ships
- Rules for mobile offshore units

- Rules for refrigerated stores (on board) and cargo installation (on board)
- Rules for ships for liquefied gases
- Rules for bulk chemical tankers
- Rules for submersibles and diving systems

Etc.

Whilst classification society played a very important role in maintaining standards and securing the safety of ships and their cargo, governments have been concerned about safety of life at sea since the late 19th century.

As stated above, LR in 1835 introduced a requirement about the safety relationship between freeboard and draught, known as LR Rule, which was used by responsible owners on a voluntary basis until 1880. In the United Kingdom, about that time, Samuel Plimsoll was instrumental in passing the UK Merchant Shipping Act requiring a freeboard mark, which was called the “Plimsoll Line”, to be marked on the ship’s side. It was not until 1890 that freeboard tables for limiting draft, proposed by LR, were used as a basis for the Shipping Act requiring freeboard to be calculated and marked accordingly. Class rules became the basis of compliance with requirements of a Flag State in this respect.

In 1930, an International Conference was held in London and ended up with the 1930 Load Line Conventions ratified by the majority of the Nations attending the meeting.

Governments’ on-going concern for safety of life at sea gave rise to some more international conventions. Much more emphasis has been placed on conventions and statutory certificates since the establishment of the Inter Governmental Maritime Consultative Organisation in March 1958 (IMCO). Ships are now unable to trade internationally without statutory certificates and such certificates require initial, renewal and other surveys on board.

The classification societies continue to play their traditional role in providing the insurance industry with the necessary technical data for each vessel seeking cover. Furthermore, it is also becoming common practice of Flag State to authorise them to issue, on their behalf, the necessary statutory certificates stipulated by the international conventions.

Those leading classification societies are appointed by most flag administrations as Recognised Organisations (RO) to do surveys and issue or endorse many of these certificates on their behalf.

2.3 Establishment of the International Classification Societies (IACS)

One cannot speak about classification Society without mentioning the IACS.

There are approximately 40 classification societies in the world but more than 90% of the world merchant tonnage – over 522 million gross tonnage – is classed by the ten Members and three Associates of the IACS.

The idea of establishing such an organisation was associated with the Load Line Convention of 1930. The Convention recommended collaboration between classification societies to secure “as much as uniformity as possible in the application of the standards of strength upon which freeboard is based...”

The first meeting of major classification societies, ABS, BV, DNV, GL, LR and NK, was hosted by RINA in 1939, and consensus was reached on further cooperation. The 1939 to 1945 war stopped those ideas and it was not until 1955 that there was another meeting. This meeting resulted in the creation of Working Parties on specific topics. The first fruit of co-operation came in 1957 when a Unified Requirement (UR) was produced for hull structural steel, which laid down the foundation for its more than 200 URs.

In 1968 IACS was formed by the seven leading classification societies, namely ABS, BV, DNV, GL, LR, NK, and RINA. Individual class standards were harmonised by agreeing on uniform technical requirements which have increasingly become the underlying technical fabric of maritime safety.

Classification Societies may be admitted as Members of the Association only by decision of the Council subjected to the following requirements:

- Compliance with the IACS Quality System Certification Scheme (QSCS) is mandatory for IACS Member and Associate status and the Council has the power to take appropriate actions in this context
- Active participation in IACS Working Groups over a 3- year period
- 30 years experience as a classification society with own rules
- Classed fleet of not less than 1500 ocean-going vessels (over 100 Gross Tonnage) with an aggregate total of not less than 8 million Gross Tonnage. In the case of dual classed vessels, only 50 per cent of the number and gross tonnage of such vessels shall count towards a Society's classed fleet and aggregate Gross Tonnage.
- Professional Staff of 150 exclusive surveyors and 100 technical specialists all of whom should be qualified and trained in accordance with IACS Procedures.
- Possession of a valid IACS Quality System Certificate of Conformity
- Observance of Code of Ethics

For associates,

prior to acceptance of a Classification Society for Associate status with IACS, the applicant is to demonstrate that its business has been carried out in a manner expected of a responsible Classification Society. Subject to satisfactory examination of such past performance an applicant Society must then demonstrate compliance with the following minimum conditions:

- 15 years experience as a Classification Society with its own Classification Rules which at least incorporate IACS Unified Requirements
- Classed fleet of not less than 750 ocean-going vessels (over 100 Gross Tonnage) with an aggregate total of not less than 2 million Gross Tonnage. In the case of dual classed vessels, only 50 per cent of the number and gross tonnage of such vessel shall count towards a Society's classed fleet and aggregate Gross Tonnage
- Professional Staff of 75 exclusive surveyors and 50 technical specialists all of whom should be qualified and trained in accordance with IACS Procedures
- Rules and Register both published in English and regularly updated
- Has implemented and maintained procedures and procedural requirements at least equivalent to those contained in IACS Procedures, and IACS Procedural Requirements
- Possession of valid Quality System Certificate of Conformity
- Observance of Code of Ethics
- Confidential Procedural Requirements will be released to prospective applicants after satisfactory demonstration of compliance with other criteria for use in preparation for QSCS audit.

During a 3 year initial probationary period the Associate would have to:

- Be re-audited annually
- Maintain open records and satisfy any complaints about failure to conform to IACS Procedures and Procedural Requirements.

After a 3 year probationary period an Associate may retain its status provided it continues to comply with the foregoing quantitative and qualitative requirements (IACS Charter, 1998).

In 1969, RS became a Member, PRS in 1970, KR and CCS in 1988. CRS and IRS became Associates in due course. In 1997 however, due to failure to maintain standards, PRS was downgraded from Member to Associate.

With its ten Members and three Associates, IACS has become a crucial partner in the international maritime circle in terms of their combined and unique level of classification knowledge and experience in contributing to maritime safety and its regulatory regime.

2.4 The role of classification societies led by IACS in maritime industry

There is no other system than classification that provides shipowners, shipbuilders, charterers, insurers and financiers with a high level technical service that covers all merchant ships from design and construction to the end of their operational lives. When the governments began the process of formulating marine safety regulations, first independently and later under the auspices of the IMO, it was considered unnecessary to provide detailed requirements as these were covered by classification, ranging from hull structure to essential engineering and electrical systems. Therefore, in the maritime world, the classification society has been called the technical leader and the standard-setter and remains at the forefront of technological development. They are playing not only a crucial but a multi-dimensional role. They perform tasks delegated by the flag states, provide technical verification for marine underwriters and shipping industries, and offer a great service to shipowners as well.

Based on the principle of independence, integrity and impartiality, classification societies define themselves as non-governmental, non-profit-making technical body, which implements its rules solely on the basis of technical judgements in pursuit of safety of life at sea, without being influenced by the commercial or political consequences of its decision.

The IMO recognises the unique character of classification societies and realised that they can play a unique role in implementing the high level of safety standards. IMO has repeatedly demonstrated its will to promote this role of classification societies. However, this, at the same time, has resulted in increase in the workload of classification societies around the world and the increase in the number of

classification societies as well, which unfortunately decreased the standard of services offered by them. Above all, their sole customer, who pays the bill, is the shipowner, which is exactly the fact that led a number of critics to accuse the classification societies of having conflicting interests, i.e. statutory duties on one hand and on the other hand “pleasing” the shipowners. They are criticising classification societies for failure to carry out their duties at a level so strict that it could “displease” their customer.

Thanks to the efforts of the leading classification societies made through the IACS, the classification has a much better reputation today compared with the situation many years ago. In 1969, IACS was granted status with the IMO and is the only non-governmental organisation with observer status that is able to develop rules. In cooperation with IACS, IMO proceeds to set out guidelines for the recognition of classification societies and IACS itself has imposed a self-regulatory scheme on its Members to maintain and improve the quality of classification.

Today, IACS’ ten Members and three Associates class over 90% of the world total merchant tonnage of more than 522 million gross tonnage. The 46,000 ships classed by IACS Societies take up half of the total fleet by number of ships. They conduct over 600,000 ship surveys annually, with their 6,000 surveyors supported by nearly 6,000 technical staff in almost 1,600 offices worldwide. They invest over \$70 million annually in ship structural and engineering research and development (IACS, 1998). IACS societies are authorised by more than 100 Member States of the International Maritime Organisation (IMO) to undertake statutory international and national regulation compliance surveys and to issue the necessary certification on their behalf. IACS has over the past thirty years systematically developed more than 200 IACS Unified requirements (UR) and Interpretations (UI).

Since its establishment in 1968, IACS has been working towards three main objectives:

- To promote the improvement of the standards of safety at sea and to prevent pollution of the marine environment;
- To consult and cooperate with international and national maritime organisations
- To maintain close co-operation with the world maritime industries without giving up independence.

Guided by the objectives, IACS launched its Quality Certification Scheme (QSCS) in 1991 to ensure integrity and the highest standards in ship's classification service. The scheme sets and monitors rigorous standards and has been strengthened further to invoke standards more rigorous than the requirements of ISO 9001.

As is well known, the IMO is the United Nations' organisation responsible for ship safety and maritime pollution prevention. IACS, holding consultative status with IMO, has been playing an active part in the work of IMO through contribution to the development of all the major international conventions.

However, no single organisation can alone bear the responsibility for the safety of shipping. Shipowners and operators, charterers, financiers, underwriters also have an important role to play. Each has to understand what the other does, cooperate and have a meaningful dialogue with the others (O'Ferrall, 1996). Bearing this in mind, IACS liaises closely with numerous maritime safety organisations, shipping interest groups and other associations including the International Chamber of Shipping (ICS), the Oil Companies International Maritime Forum (OCIMF), Intertanko, Intercargo, Institute of London Underwriters, etc.

In one word, "the last thirty years have seen IACS develop ... into one of the most widely respected organisations in shipping ... Its Members are in unique position to contribute to IMO's work ... because of their long experience in maritime safety ... but also because of the technical resources at their disposal (W O'Neil, 1998).

2.5 IACS safety initiatives in recent ten years

Classification as a whole experienced difficulties through the 1980s due to the depressing shipping market with low freight rates and the worldwide trend to minimise ship maintenance. The problem of substandard ships, whether caused by design defaults, high age, poor maintenance, inadequate crewing or a mixture of all these, came to a head with the appallingly high rate of bulk carrier losses and casualties of 1990 and 1991. Classification Societies found themselves under a harsh spotlight. A number of casualties with structural failures appeared to be in class and often with one of the most reputable IACS Member Societies. Class was accused of failing to do its duty. Questions were even raised as to whether the basic class rules were good enough.

To meet the challenge of a changing industry, IACS Council decided in 1990 to make radical changes. IACS Code of Ethics and QSCS were established to address efficiency, discipline and communications. The Permanent Secretariat in London was set up in 1992 and quickly began to communicate more effectively with the industry, its critics and the media.

The intensive efforts made by IACS to respond to the challenges have resulted in a range of maritime safety initiatives:

- The first in a continuing series of IACS initiatives towards a safer bulk carrier fleet was taken in 1992. IACS produced a new UR for the corrosion protection of ballast tanks and cargo holds – and revised guidance notes for bulk carrier surveys.
- In 1993, IACS adopted minimum side shell frame web thickness requirements.
- In July 1993, IACS launched its important Enhance Survey Programme (ESP) designed to reduce the risks of water ingress through the side shell and hatch cover.

- In 1994, an important manual on bulk carrier survey and repair – Bulk Carriers - Guidelines for Surveys, Assessments and Repair of Hull Structure was published.
- In late 1994, IACS council launched the largest single research effort in the Association’s history with a major investigation into how older bulk carriers could be made safer.
- 1995 marked important progress by IACS in the further development of its unique contribution to the safety of an increasingly elderly fleet. Its mid-year council meeting agreed on the implementation of a programme of seven marine safety initiative:
 1. Transfer of Class Agreement (TOCA), designed to eliminate the possibility of required repairs being avoided by “class-hopping” and to ensure that the gaining society accepts the vessel for its classification only after all the overdue surveys, recommendations or conditions of class previously issued against the vessel have been completed as specified by the losing society.
 2. Transparency of classification and statutory information, whereby the IACS Societies have extended the range of classification and statutory information readily available upon proper request.
 3. Procedure for Suspension of Class, under which classification will be automatically suspended in the event of the special survey not being completed, or annual survey not being completed within three months of the due date, or if an outstanding recommendation and/or condition of class is not fulfilled by an assigned date.

4. Procedure for Employment and Control of Non-exclusive Surveyors, limiting the employment of non-exclusive surveyors.
5. Procedure for Surveyor Activity Monitoring, ensuring that surveyor has carried out the survey satisfactorily in compliance with the Rules and Process Instructions.
6. Procedure for Qualification and Training of Surveyors
7. Procedure for Responding to Port State Control (PSC), defining the co-operation and assistance to be given by surveyors during PSC inspection.

With conformance audited through QSCS, the programme has been further tightened.

- Also in 1995, the Procedural Guidelines for Members' involvement in certifications for the International Safety Management Code (ISM Code) were established.
- At the end of 1996, new Conditions of Class were announced requiring higher strength reserves in older ships and stronger new ships with greater margins of safety and survivability.
- 1997 saw the research and publication by IACS of its ever first comprehensive guide to Shipbuilding and Repair Quality Standards (SARQS).
- In 1998, with revision to SOLAS 74, compliance with class Rules becomes a pre-condition for compliance with statutory requirements of the international maritime safety regime.

- 1998 also marks the entry into force of the ISM code for all “phase one” vessels. IACS Members are responsible for a high proportion of auditing for ISM Code compliance and playing a leading role in developing and ensuring consistency in Code implementation.
- 1998 also saw the new and revised IACS UR entering into force on 1 July 1998 giving higher strength criteria and new Condition of Class for existing bulk carriers.

In regulatory initiatives and compliance, IACS’ fleet data, resources, and experience have proved invaluable to the whole maritime industry.

Chapter 3

3. The interrelationship

3.1 Maritime safety involving interrelated elements

Several years ago, the International Association of Independent Tanker Owners (Intertanko) put forward a concept of "responsibility chain".

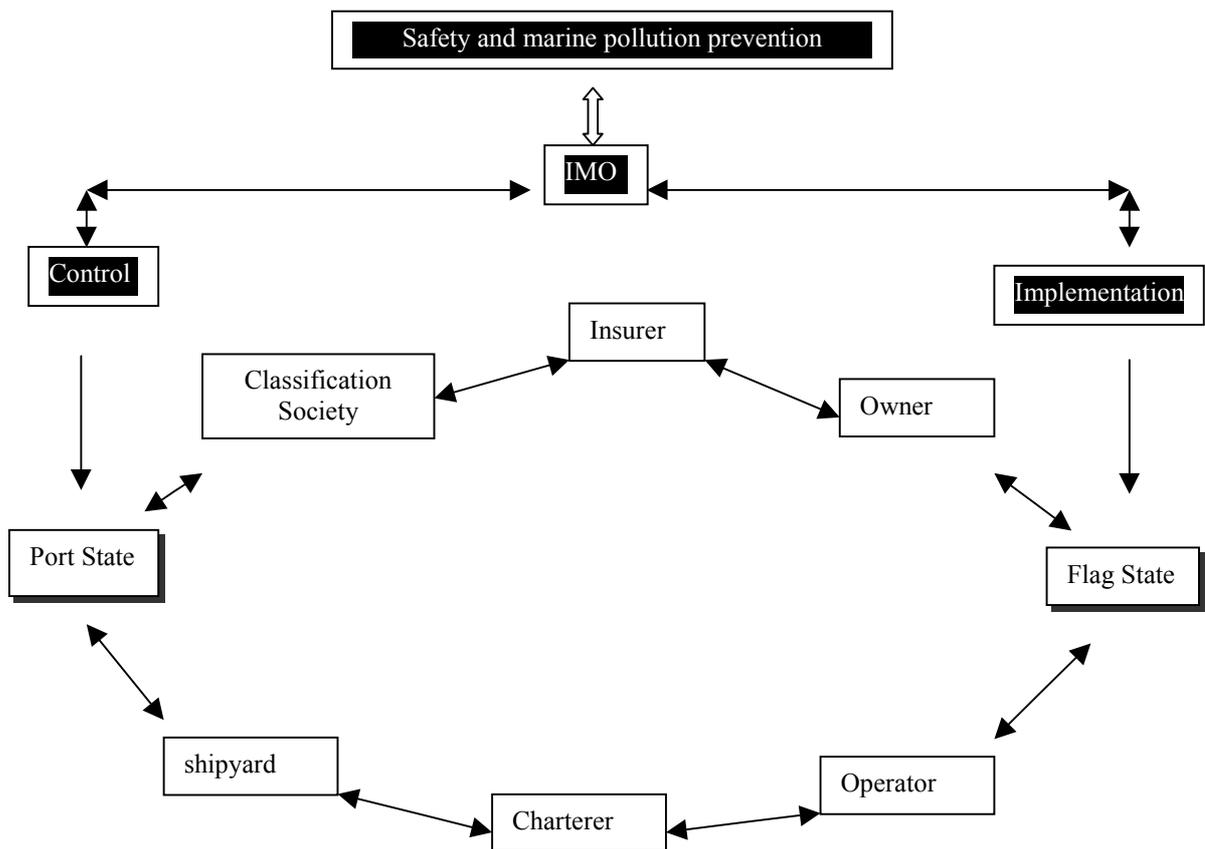


Figure 1

Safe shipping involves an interrelated system of interests and activities, and each has its roles and responsibilities to achieve the desired outcome. Flag, shipyard, owner, operator, cargo owner, charterer, port, terminal, pilot, seafarer, regulator and P&I Club have been playing distinct roles in this "responsibility chain". (See Figure 1)

As shown in the above figure, IMO sets up standards on safety and pollution prevention based on the proposals made by Flag States, that are both users and providers of international shipping services. Flag States that are parties to the various IMO Conventions, have the responsibility to implement those standards on ships flying their flag. Classification societies are involved through delegation of authority from the Flag States to certify ships and shipping companies as complying with international and national regulations. The Governments execute Port State Control (PSC) to ensure that the ships entering their ports or passing through their waters, are complying with international Conventions. Shipowners/operators are regulated by Flag State, Port State and class and it is their obligation to maintain their ships in a safe and seaworthy condition. Shipyards build ships up to standards. Insurers provide mechanisms by which shipowners can finance and distribute the liability costs connected with operating their vessels. By setting up lower premiums for higher standard ships, insurers are playing a role in encouraging safe operations.

Over the years, the evolution of the marine industry "has led to a position where, today, there is no single leader in this area... if we are to ensure ongoing satisfactory standards and the elimination of substandard tonnage, full and proactive co-operation between the various interests will be essential" (Bell, 1995).

3.2 IMO, the key role

One cannot imagine a maritime world without the key role played by the IMO.

On March 6, 1948, the United Nations (UN) Maritime Conference adopted a Convention on the establishment of Inter-Governmental Maritime Consultative

Organisation (IMCO) to facilitate co-operation on maritime matters. It was concluded that IMO would devote entirely to co-operation on governmental regulations and practices on technical matters, and encourage and facilitate general adoption of highest practicable standards for maritime safety, efficiency of navigation and control of marine pollution.

In 1982, IMCO changed its name to the International Maritime Organisation (IMO), the only specialised UN agency exclusively dealing with matters related to safe shipping and cleaner seas. Furthermore, it attracted both traditional maritime countries and countries with considerable shipping interests to become Member States. It now consists of 157 Member States and 2 Associate Members. In order to establish formal links with various maritime interests and enable them to participate in the work of various committees and sub-committees of IMO, it has granted consultative status to 54 non-governmental organisations and 36 inter-governmental organisations.

Since IMO came into being, its chief concern has been to develop international standards concerning maritime safety and marine pollution prevention in the form of Conventions, Codes and other instruments. Four decades later, losses have dropped dramatically and the amount of oil entering into the sea from ships reduced steadily, with over 95% of the world's merchant fleet adhering to the key safety and environmental pollution prevention Conventions developed by IMO (See Table 1).

SUMMARY OF STATUS OF CONVENTIONS
as at 31 March 2000

International Conventions	Contracting States	% world tonnage
International Convention for the Safety of Life at Sea, 1974 (SOLAS 1974)	139	98.46
International Convention on Load Line, 1966 (LL 1966)	143	98.45
Tonnage Measurement of Ships, 1969 (TM 1969)	124	98.13
Convention on the International regulations for Prevention Collision at Sea, 1972 (COLREG 1972)	133	96,67
International Convention on Standards of training, Certification and Watchkeeping for Seafarers, 1978 (STCW 1978)	133	98.11
International Convention on Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 (MARPOL 73/78)	108	Annex I 94% Annex II 94%

Table 1

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

* Lloyd's Register of Shipping - World Fleet Statistics as at 31 December 1998)

There are many other instruments as well, addressing in detail safety and pollution prevention aspects affecting various interests. The success of any instrument depends on whether it will be enforce by the Member States in a manner that will be

sustainable by the various interests as displayed in the responsibility chain. Marine industry operates in a delicate environment and extra caution needs to be exercised in order not to disturb the balance existing between the involved interests. A common understanding between the Member States and the industry needs to be reached and the understanding and constructive exchange of views can only be achieved through IMO where international solutions can be debated and achieved.

Indeed, IMO has been playing a key role in the responsibility chain. To link up the various players, IMO has established the following instruments of various natures:

Maritime players	Some Relevant Instruments
Flag state	<ul style="list-style-type: none"> • SOLAS • LL • MARPOL • STCW • COLREG • TM 1969 • Flag State Implementation Subcommittee • Resolution A.481(XII) Principles of safe manning • Resolution A.788(19) Guidelines on implementation of the ISM Code by Administration • Resolution A.847(20) Guidelines to assist Flag States in the implementation of IMO instruments • MSC/Circ.889 Self-assessment of Flag State performance • Etc.
Port State	<ul style="list-style-type: none"> • SOLAS • LL • MARPOL • STCW

	<ul style="list-style-type: none"> • COLREG • Resolution A.787(19) Procedures for Port State Control • Etc.
Shipowners/operators	<ul style="list-style-type: none"> • SOLAS • LL • MARPOL • STCW • COLREG • TM 1969 • International Safety Management (ISM) Code • Resolution A.741(18) International management code for the safe operation of ships and for pollution prevention • Resolution A.788(19) Guidelines on implementation of the ISM Code by Administration • Etc.
Classification society	<ul style="list-style-type: none"> • SOLAS • LL • Resolution A.739(18) Guidelines for the Authorisation of Organisations Acting on Behalf of the Administration • Resolution A.789(19) Specification on the Survey and Certification Functions of recognised Organisations Acting on Behalf of the Administration • MSC/Circ. 710 Model agreement for the authorisation of organisation acting on behalf of the Administration • Etc.
Terminal operators	<ul style="list-style-type: none"> • MARPOL 73/78 • International Maritime Dangerous Goods (IMDG) Code, as amended • Recommendation on the safe transport handling and

	<p>storage of dangerous substances in port area, 1983</p> <ul style="list-style-type: none"> • Ship/port Interface Working Group • Resolution A.786(19) A strategy for the ship/port interface (SPI) • Etc.
Seafarers	<ul style="list-style-type: none"> • STCW

Table 2

Through the establishment of such a regulatory regime, the IMO manages to ensure an effective and fast rule-making mechanism backed up by "a rigorous enforcement mechanism" which applies the rules indiscriminately (Pamborides, 1999).

3.3 IACS and IMO; class rules and IMO Conventions

The international instruments developed by IMO address in detail safety aspects other than hull structures and essential shipboard engineering systems. It is the classification that embodies the technical rules, regulations, standards, guidelines and associated surveys and inspections concerning the design, construction and through-life compliance of a ship's structure and essential engineering and electrical systems. (IACS, 1997). IMO respects class rules as the technical foundation for a safer world fleet and the elimination of sub-standard ships.

With the development of shipping, there is an increasing demand for technical skills, knowledge and experience from classification societies. IACS, the International Association of classification Society, with its unique level of experience and the contributions it has made to the industry regarding safety and rules, became the leading force in the classification industry. Recognised by IMO, it was granted consultative status by IMO within the first year of its existence in 1969. Today IACS remains the only non-governmental organisation in IMO holding a consultative status, which is able to develop and apply structural rules.

Class rules are produced on the basis of considerable research and developments as well as the results of service feedback received continuously through hull and machinery survey reports. They contain detailed requirements for:

- Materials
- Ship structures
- Main and auxiliary machinery
- Control engineering system
- Electrical installation
- Survey during construction and periodic surveys of ships in service

Today a classification process has developed, which is based on class rules. Plans are examined and approved, ships are surveyed through construction, class is granted and certificates are issued and the ships are surveyed periodically as long as they stay within the register. The information flows back to each classification society with regard to the operation of the ships, their technical difficulties and a vast amount of experience gained, which enables the lessons learnt to be built into new designs and new ships so that a gradual improvement can be made in safety and the ability to take advantage of technological development.

Class is evolutionary and the evolution has led to its being the leading authority on ship structural and engineering design, construction and maintenance standards, which was first recognised by 1966 Load Line convention of IMO. The Convention stipulates that freeboard computation and conditions of freeboard assignment, including intact and damage stability regulations as necessary, together with the detailed rules of a classification society, are to be complied with before a Load Line certificate can be issued. It was further recognised by a regulation of SOLAS 1974, which defines the explicit linkage between class rules and IMO Conventions by stipulating that "ships shall be designed, constructed and maintained in compliance with the requirements of a classification society, recognised by the Administration,

or with applicable national standards of the administration which provides an equivalent level of safety"(SOLAS Chapter II-1, Regulation 3-1). Compliance with class rules became a precondition for compliance with statutory requirements of the international maritime safety regime.

To avoid duplication, IMO does not make class regulations and classification society does not duplicate the International Conventions by making separate rules for stability aspects or for safety aspects such as fire safety, lifeboat, liferaft, lifejackets and other life-saving appliance, or for navigational aids, lights and sound signals, radio equipment and pollution prevention equipment. (J. R. G Smith, 1998)

The functions of the classification society and the IMO are separate but related. Classification societies, mainly the Member Societies of IACS, produce and apply class rules and at the same time apply the requirements of some IMO Conventions on behalf of more than 100 Administrations.

In one word, the internationally recognised standards for ship safety and marine pollution prevention are attained by compliance with both the rules of a classification society and the regulations of the applicable International Conventions.

3.4 The relationship between classification society and Flag State

Under the provision of SOLAS 1974 and LL 1966, the Flag State is responsible for promulgating these International Conventions and for taking all other steps that may be necessary to give them full and complete effect. In other words, the Flag State has the responsibility to:

- Establish national laws and regulations for ship safety in general
- Decide, based on international standards, national safety standards for the design, construction and operation of ships
- Exercise control to ensure that these standards are complied with.

It is inarguable that the Flag State carries the primary and full responsibility for the overall development and implementation of safety regulations. There are different ways of accomplishing Flag State Implementation (FSI). One way is to put more responsibilities on shipowners. However, experience has shown that even if there are responsible shipowners, there are also many not so responsible. It is also difficult in some cases for the Flag State to exercise full and continuous control over some of the ships entitled to fly its flag that do not regularly call at a port of the Flag State. It is hard for a Flag State to employ inspectors at foreign ports to exercise control. Even if it has large technical resources itself, it is difficult to do all kinds of qualified technical evaluations related to ship safety.

These problems have been partly overcome by Flag State authorising classification societies, who have sufficient expertise and world-wide availability of highly qualified personnel to act on its behalf. In the 1960's and 1970's when there was major expansion in open registry, those flags of convenience registries did not have the capabilities to administer and regulate compliance with their own national and international safety standards. Classification societies became increasingly involved in statutory surveys on behalf of Flag State.

The evolutionary relationship between Flag State and classification society has also led to the fact that on the one hand, Flag State requires that hull and machinery shall be built to class rules and on the other hand, class surveys are carried out in accordance with the provisions established by Flag State through IMO, related to stability and load line, fire prevention and pollution prevention.

As previously mentioned, more than 100 Administrations have authorised Member Societies of IACS, in view of their global network of resources, unrivalled technical experience, to apply the statutory regulations of the Conventions and related Codes and Resolutions, either wholly or partly, and issue statutory certificates on their behalf. Such delegation is permissible under the IMO Convention.

In every case, the Flag State shall fully guarantee the completion and efficiency of the inspection and survey, which is covered by a written agreement between the Flag State and the classification society. The Flag State must have such means as performance assessment or audit to monitor the delegated classification society to ensure that the work is being adequately and satisfactorily performed. The delegated classification society, in order to demonstrate the quality of its service, normally has an effective quality system in place. In this respect IACS, based on and beyond the applicable requirements of ISO9001:1994, has set up a Quality System Certification Scheme (QSCS), which is recognised by IMO.

Classification societies work for and are monitored by Flag States when surveying ships for statutory compliance with international requirements. Nevertheless, it is the Flag State that is primarily responsible for the ships in its fleet.

3.5 Classification societies and Port State

Shipping is an international business. It is therefore not unusual for a vessel not to call at a port of its Flag State for quite a long period of time. It is not unusual that a vessel trades in an area far away from its Flag State due to the rules of supply and demand. Consequently, the enforcement of the national legislation of the Flag State over its vessels becomes practically impossible. This would be the case particularly with small States having fleets disproportionately larger than the size of their administration. The international community, recognising the difficulties faced with Flag States, sought ways of assisting them.

At the beginning, the Port State was considered an ideal solution to the problem by acting as an agent of the Flag State to exercise necessary control over the vessels flying its flag. The findings could then be communicated to the Flag State which would evaluate them and take appropriate action if necessary. However, it proved that not all Flag States were ready to do so. Certain Flag States would not only fail to

exercise any type of control, but would not take any action in response to the reports sent to them by Port States. By then, Port States did not inspect foreign vessels in their ports on behalf of the Flag States. Instead they had jurisdiction both to legislate and to enforce such legislation on foreign vessels visiting their ports. Port State Control (PSC) has become an alternative enforcement regime of international standards, called "last safety net". PSC protects port/coastal states' interest and has a beneficial influence on Flag State control as well with its experience gained from inspection as valuable backup and supplementary source.

Generally speaking, over these years, provisions allowing for PSC were introduced in a number of IMO Conventions, including LL 1966, SOLAS 1974, MARPOL 73/78, STCW 78 and COLREG 1972.

The introduction of the new concept of PSC created new problems due to unilateral national legislations. IMO realised that an attempt to introduce a co-ordinated, global system of application of PSC would be extremely necessary and extremely difficult as well.

Regional MOU	Coverage	Year
United States Coast Guard (USCG)	North America	1790
Paris MOU	Europe	1982
Vina del Mar Agreement	South America	1992
Tokyo MOU	Asia and Pacific	1993
Caribbean MOU	Central America	1996
Mediterranean MOU	Mediterranean region	1997
Indian Ocean MOU	Indian Ocean region	1998
West and Central Africa MOU	West and Central Africa	1999
Persian Gulf MOU	West Asia	2000
Black Sea MOU	Black Sea region	2000

Table 3

Different ports have different characteristics and therefore a global system would be destined to fail. Instead, IMO encourages its Members to proceed to regional co-operation in the application of PSC. By the year 2000, a full global coverage by regional regimes will be established by the Memorandum of Understanding (MOU) as listed in Table 3.

Regional co-operation embraces exchange of information between the co-operating maritime authorities, harmonised inspections and avoidance of unfair competition between ports of neighbouring States.

As mentioned previously, SOLAS 74 and LL 66 provide provisions for PSC procedures to be followed by the Port States with regard to foreign ships visiting their ports. (See Figure 5). In the whole process, the classification society is an important player due to the inseparable relationship between class rules and statutory regulations. In measuring compliance with international and statutory regulations, "PSC takes class rules as the vital point of reference." (Mathiesen, 1998) Full co-operation with PSC is an obligation for the classification society, particularly the IACS Societies. IACS strongly supports PSC and has been involved in the development and training programs for some regional MOUs, especially as regards the vital link between IMO Conventions and class rules. By making relevant class data available to the Port State and making positive use of the ship detention data provided by PSC, IACS has maintained a working partnerships with PSC. In case that a ship in class is detained due to class-related deficiencies, IACS surveyors will attend onboard the ship to give assistance when necessary. Liasing with the Flag State in accordance with authorisation agreement and providing services for owners, IACS Societies also try to ensure that both are fully aware of the actions being taken.

As said by Dr Mathiesen (1998), ex-IACS chairman, delivering a safe world fleet in the 21st century depends principally on the owner - and then a working partnership between the IMO and its Members, classification societies and PSC.

3.6 The relationship between classification society and industries

Indeed, an owner is ultimately responsible for the quality of the ship. Whether a classification society acts to check compliance with its structural rules or conformance with the statutory regulations of the vessel's Flag State, it requires the fullest co-operation of the owner who retains the ultimate responsibility - the "duty of care" for the safe maintenance, operation and manning of his ships.

There are owners committed to high quality ships and safe operations. Regretably, there are substandard ships and companies making profit from a lower cost of operation at the sacrifice of safety, which makes responsible operators disadvantaged. According to the statistics of OECD published in 1996, in case of a 20-year-old bulk carrier, it would cost the shipowner as high as US \$7,500 per day if he is committed to the maximum possible safety standard and US \$3,250 per day in order for it to be in compliance with the basic requirements of IMO Conventions. What is of great importance is that the same vessel may continue to be operational but below the internationally accepted standards on a cost of US\$2,750 per day. Obviously, the shipowner of the substandard vessel is saving himself US\$500 per day, US\$182,500 per year as compared to the "compliance" vessels, let alone the "maximum" ones. The shipping industry is highly competitive and the art of minimising the operational cost can determine the success or failure of a shipowner.

Classification Societies, despite their efforts to pursue safety standard, integrity and independence, have not been immune from commercial pressures imposed on them to compromise those standards due to the intimate relationship between classification society and shipowner, who pays for the service of the classification society. The extent of pressure, as suggested by many classification societies, is even greater than publicly believed. Shipbuilders, at the same time, have made attempts to force classification society to reduce structural standards by conceding lower steel weights and thus cutting the building costs.

PROCEDURES FOR THE CONTROL OF SHIPS

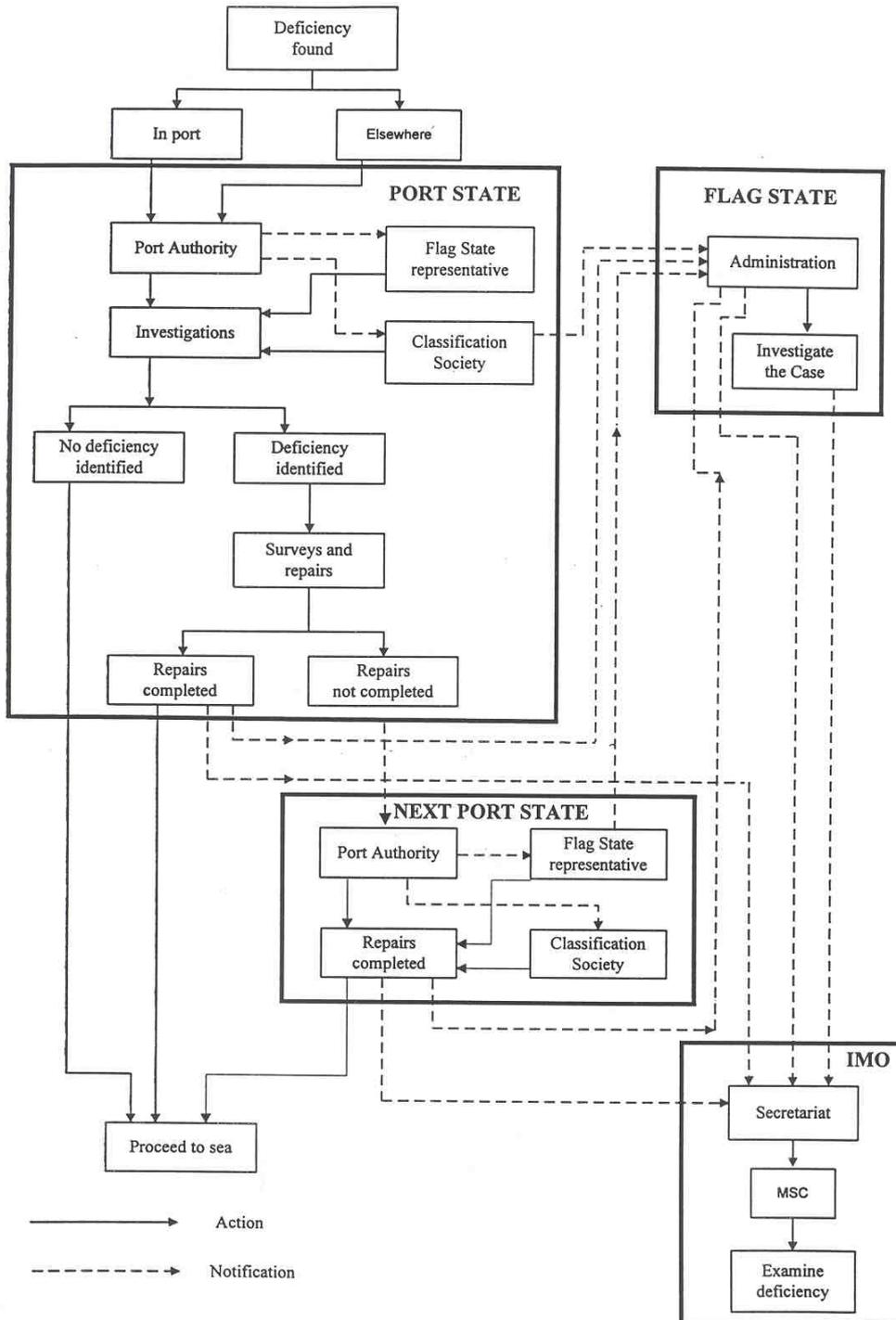


Figure 2

(Mitropolous, 1999)

Charterer, another partner in the maritime world, is playing an increasingly important role in an increasingly fragmented shipping market. Unlike the shipowner, the charterer is merely making a choice of his carrier based on knowledge, experience, data and price. The industry itself has been seeking ways, such as the Ship Inspection Reporting Exchange (SIRE) system, to assist charterers in selection of vessels. At the present stage, classification societies have not yet been involved in the vessel selection process. Nevertheless, charterers are represented in the governing body of classification societies. Views have been expressed that charterers should employ classification societies so as to gain access to the vessel's condition, thus making selection decisions.

Financially discriminating against the substandard ships by demanding higher premiums and interest for the extra risks, insurance companies and banks have a role to play to encourage safe operation. Same views have been held by various interests regarding insurers and banks that they should also use the service of classification societies. Such a possibility would give them access to the class recommendations in respect of any ships being entering into agreement with those companies and banks.

Safe and responsibly managed world fleet can be by no means achieved by any of the maritime interest alone. It is a shared responsibility by all. The implementation of the ISM Code, on a mandatory basis as a part of the SOLAS Convention, now offers a unique opportunity for the entire maritime community to bring about a new safety culture and a yardstick for both Flag State and Port State Control regimes. Unlike the prescriptive safety requirements which owners and operators have been used to in the past, the ISM Code imposes an obligation on owners and operators to set their own safety management objective by developing, implementing and maintaining safety management systems. Clearly the task of certifying a large number of the world fleet and its operating companies to the ISM Code is a challenge for classification societies, particularly IACS Societies.

Chapter 4

4. The environment and development trends of classification societies

4.1 Increased focus on human element

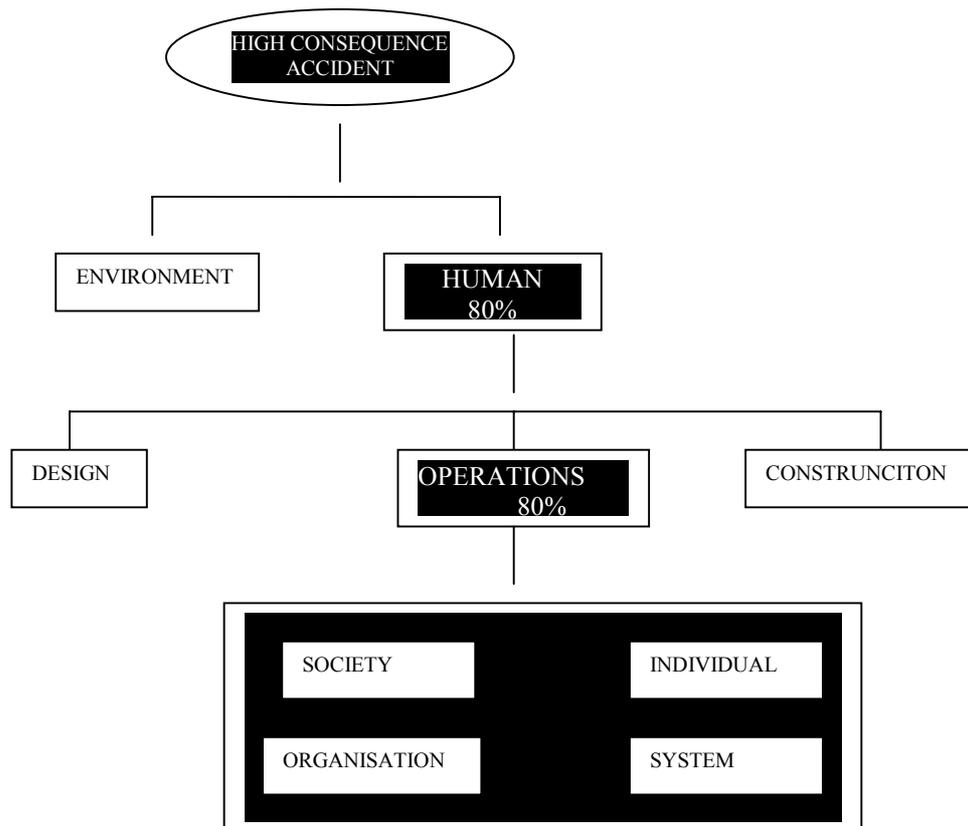


Figure 3

Detailed analysis of ship accidents shows that human element plays an important role in most of the accidents. (See Figure 3)

The most important task of IMO today is to find ways of developing and improving the human resources on which the shipping industry depends. The introduction of the

ISM Code was a major part of this process. Statistics published by the Swedish Club show that insurance claims concerning ships applying the Code have fallen significantly compared with those who do not apply the Code. The difference is approximately 30%.

Traditionally, classification societies have focused only on the technical aspects of new and in service vessels. In recent years, it has become obvious that there is a limit to improvements in the safety, if emphasis is only placed on the technical aspects. On one hand, IACS adopts unified procedures for qualification and training of its surveyors and monitoring of survey activities to build on its own human resources; on the other hand, IACS welcomes the steps of IMO to include the human element in further improvement of ship safety. In this respect, IACS has set up harmonised system for the interpretation of the ISM Code and certification of compliance with the Code and has been offering ISM Code certification capabilities world-wide.

4.2 Over-regulation

It is believed by all that IMO is the only system to formulate international standards for safety and pollution prevention. The effectiveness of the standards is wholly and solely dependent on the effectiveness of government enforcement of those standards.

To some extent, however, the industry is deluged by an ever increasing body of regulations that, for many countries, are difficult to follow, let alone implementation. Mr O'Neil, Secretary-General of IMO, conceded this fact by saying that over the last three and a half decades, IMO has adopted several shelves full of rules and regulations and although they have certainly helped to improve the situation, they can only be effective if they are put into practice and are enforced; and this is not always the case. (1997)

Aware of the problem, IMO established Flag State Implementation Subcommittee to promote effective implementation. Resolution A.500(XII) - Objective of the

organisation - also provides that "...the Council and the Committee entertain proposals for new Conventions or amendments to existing Conventions only on the basis of clear and well-documented demonstration of compelling need... having regard to the cost to the maritime industry and the burden on the legislative and administrative resources of Member State..." There are increasing demands for a synergy between market forces and optimum regulation. Also aware of such a challenge, IMO has adopted Formal Safety Assessment (FSA) methodology in its rule-making process, making more systematic evaluation of the cost involved in safety and environmental protection.

On one hand, efforts should be made by rule-makers to balance safety standards and industrial competitiveness and on the other hand however, it is even more urgent to comply with existing rules than developing new ones.

4.3 Substandard shipping

The term "substandard ship" has been used in many instances while the official definition of a substandard ship is given in a very general term. According to IMO Resolution 787, a substandard ship is "a ship whose hull, machinery, equipment or operational safety is substantially below the standards required by the relevant Conventions or whose crew is not in conformity with the safe manning document". The international shipping industry, with the technological developments having affected the field since the beginning of the century, has transformed to one of the most competitive industries in the world. Competition has become increasingly fierce. As mentioned above, the success of a shipowner depends on how much profit he can make by cutting cost. The "evasion culture" companies came into being as a result, who register their ships under the flag of a State offering a favourable tax regime or tax requirements on crews' salaries and social security. Their ships, rusted, manned by unqualified, underpaid crews, unable to communicate or understand the instructions, favoured by cargo owners due to lowest freight rate, are the substandard ships not complying with international standard, but they do sail. The gap between

the operating costs of the companies committed to "quality" or "compliance" and those of the substandard companies with substandard ships is very big (See 3.6).

The solution to the present situation is easy for everyone to see: reduce the unfair gap and make it more expensive to operate in a substandard shipping mode than in a compliance or quality mode. All players in the shipping industry are responsible for the solution.

Instead of making more and higher standards, IMO should focus on the application of the existing ones; Flag State fulfils primary responsibility for implementation of those standards and as Port State at the same time, for enforcement of compliance through the PSC system; classification societies need to re-assert their determination to maintain what they believe are safe standards in spite of the pressure to relax them.

Quality shipping, as indicated by J. M. S. Smith, the Chief Operating Officer of Liberian International Ship and Corporate Registry, could be Utopia. (2000) Such Utopia cannot possibly be achieved unless there are quality shipowners, quality registries, quality classification societies and quality crews.

4.4 IACS and quality

Quality shipping is a campaign initiated by the European Community aiming at properly enforcing the internationally agreed standards, eradicating substandard ships and deterring and penalising substandard shipowners and operators. The classification society has a significant role to play in such a campaign due to its safety responsibility as fully explained in the previous chapters.

For the past several decades, the number of classification societies has increased and many of them cannot offer sufficient experience, professionalism and independence

from commercial pressures, which is necessary to ensure an acceptable quality of performance.

European Community adopted the 94/57/EC Directive on Common Rules and Standards for Ship Inspection and Survey Organisation and for the Relevant Activities of Maritime Administrations, whereby only those Recognised Organisations in line with the Directive are considered as fulfilling quality standard and allowed to carry out statutory surveys and certification on behalf of the EU Member States.

With its high standard and fund of knowledge and experience, all IACS Societies are regarded as the "quality classification society".

Quality shipping embraces compliance with existing international standards and more importantly, embodies continuous improvement. Much of the extensive work done by IACS Members in recent years has been aimed at improving the quality of service which, in turn, will aid shipowners to maintain a quality ship in operation. IACS introduced the Quality System Certification Scheme (QSCS) as a mandatory requirement for ongoing Membership of the Association. The safety initiatives implemented and the research and development projects launched by IACS over the past decades are all dedicated to integrity and quality. Much has been done and is under way for improvement of the quality in shipping.

4.5 Class is facing increased expectation and criticism

Despite the conscientious and laudable efforts by classification societies for better harmonisation of standards and improvement of the quality of their service, and despite IACS has become one of the most widely respected organisations in the shipping world, casualties still occur to ships due to class-related deficiencies to various degrees and many of those ships are classed with IACS Members.

The sinking of the 25-year-old tanker Erika with spill of at least 10,000 tonnes of heavy oil off the French coast in December 1999 "reflected badly on all of us in the marine classification profession." (Iarossi, 2000) The tanker was classed with RINA, having transferred from BV and has passed special survey 18 months before. When a vessel goes through a special survey and its class certificate is renewed, the world expects this vessel will be able to operate safely for an additional five years' period. However, in the case of Erika, the vessel broke into two and sank due to a massive structural failure.

Three months after the Erika causality, a Panamanian bulk carrier Leader L sank with the loss of 18 lives due to structural faults again. The vessel was built to ABS class and classed by PRS when the causality occurred. Her ISM Code certificate was provided by the Panamanian Administration and her operator's Document of Compliance was provided by BV.

The class has come under almost unprecedented pressure. The question of how and if class can exercise its traditional rule enforcement effectively in the more intense and competitive environment has been raised. IACS made strong response to the challenge by a number of significant new measures including strengthening survey procedures on ships over 15 years old and setting up an investigation board to assist Flag States in investigating some casualties. These initiatives have been well received by the maritime industry. While in a separate development, the European Commission is drawing up new safety measures, including inspection of the Recognised Organisations, sanction regime, financial liability and more stringent qualitative criteria.

At a time when the quality and structural integrity of ships are under greater scrutiny than ever before, there is a greater need than ever before for classification societies to review and assert their unique regulatory role.

4.6 Proliferation of inspections

Today ships are constructed and maintained in a safe manner partly due in part to the surveys of classification societies. The classification system has served the industry well and been well recognised.

Insurers, due to their great financial involvement, have also established conditional surveys to ships to be insured. The Rules of most insurers state that a ship that has applied for entry may be required to be submitted to survey by a surveyor appointed by the club.

To serve the oil companies, Oil Companies International Maritime Forum (OCIMF) initiated its vetting system for chemical and liquefied gas ships - Condition Assessment Program (CAP) - and created the Ship Inspection Report Exchange (SIRE) to share the inspection data among Members. Similarly, there is Chemical Distribution Institute (CDI) inspection. Both are designed to assure oil and chemical companies that a vessel complies with standards and regulations.

The International Transport Workers' Federation (ITF), an international trade union with a very influential network in all major maritime nations, has established the "blue certificate" system to inspect vessels in line with ITF standards to promote favourable national legislation to seafarers and wages and social security.

There is also Salvage Association's structural survey and numerous others.

Despite the fact that the shipowners pay classification society a substantial amount every year in order to get a clean class certificate, most of the other various inspection fees also are borne by the shipowners. As far as safety is concerned, there are areas of overlapping and duplication in various inspections, which gives rise to confusion and imposes heavy burden on the shipowner and the crew on board. When

the ship in port is faced with multiple inspections by sometimes as many as 30 different inspectors, each with their agenda, the masters are put under great strain.

There are interesting voices suggesting that classification societies should be employed by charterers, insurers, banks, etc. so as to harmonise all the inspections in one package, which places a high degree of confidence on class but an equally great responsibility as well. As Mr Robin Bradley, Permanent Secretary of IACS, said, "there is a potential for rationalisation of inspections, but work needs to be done to ensure consistency and level standard. It must also overcome the issue of liability for organisations considering relying on others' inspection. (Bradley, 2000)

4.7 Liability

The world demands higher standards of ship safety, operation and environmental protection and classification societies bear a great responsibility for these standards. The greater the responsibility is, the greater the potential liability they expose themselves to. Up to now, classification societies have been protected by courts from claims raised by cargo interests against them.

Classification work is performed on assets of very high values which are exposed to considerably higher liabilities but the fees charged by class for the services performed are neither proportional to, nor connected with the size of the asset value. The purpose of class is to reduce risk. Class is paid by the shipowner but not operating the ship itself and cannot therefore cause or be responsible for an incident unless the deficiencies leading to the incident are closely associated with gross negligence of class surveyors. As private technical bodies, classification societies work for public interests and will continue to do this only if they are immune from liability.

For the above reasons, the courts accepted the arguments of class societies that, in general, they do not owe a duty of care to anybody else apart from their customer, i. e. shipowner.

However, as classification societies have been playing an increasingly important role, not only shipowners, but insurers, charterers, Flag States and others rely on class to one degree or another. To remain at the forefront of technological development, classification societies must base decisions on original research. The risk is huge and the potential liabilities are huge.

The Comité Maritime International (CMI), the influential legal organisation, has proposed an international contractual regime which would hold classification societies liable and protect them from unlimited liability. There has been debate over appropriate level at which liability should be capped. It appears that it is only a matter of time before the court will give in to the demands of other sector of the industry... (Pamborides, 1999)

4.8 Intra-IACS competition and possible merger

The establishment and continued growth of IACS are the results of active co-operation between classification societies. Today, through their spirit of co-operation within IACS, IACS Societies co-ordinate their individual developments and standards, and with open discussions they can generate new concepts of class needed for the shipping industry.

There are competitions as well and the competitions are getting intense. Various arguments have been put forward that the intra-IACS competition is not only financial but also on the safety standards. Shipbuilders and owners are seeking classification societies that cost them the least in terms of steel weight, maintenance, repair and renewal. If one society succumbs to lower construction standards, the whole status of class may be brought into question. According to the Code of Ethics

of IACS, "Competition among Societies must not be prevented, restricted or distorted. Competition helps to keep the Societies flexible, alert and cost-conscious to the benefit of the entire marine community. Competition between Societies shall be on the basis of service (technical and field) rendered to the marine industry but must not lead to compromises on safety of life and property at sea or to the lowering of technical standards. "

IACS societies must do their best to ensure a healthy combination of competition and co-operation and more importantly, to ensure the unity and solidarity of the Association.

There are divisive forces both from outside and from inside the Association. Due to the impact of the Erika disaster, some industrial partners who have had working relationships with all IACS Societies now decide to choose only some from the ten IACS Societies. There are rumours that within IACS, a super-IACS might be set up consisting of three or four larger Societies. If this does happen in the future, smaller and medium sized Societies will find it increasingly difficult to do business. The long expected consolidation of the classification sector would also be broken by full mergers between IACS Societies as a solution to unification of rules, funding investment, reducing costs and optimum utilisation of resources.

However, at the present stage, IACS Societies have to maintain sufficient unity and keep their self-regulatory function independent from commercial competition.

Chapter 5

5. Challenges and opportunities facing China Classification Societies (CCS)

5.1 China's maritime developments

One cannot speak about a nation's maritime industry without looking at the overall economic development.

China, as not only a major but dominant trader in the world, has enjoyed rapid growth since it adopted the open-door policy in 1978.

China's population takes up 22% of the world's total. Chinese economy grew on average 8.4% annually between 1978 and 1992, and this growth has accelerated since 1990 and now exceeds 10%. The GDP of China, which reached \$5 trillion in 1996, is expected to exceed \$7.3 trillion by the turn of the century and \$20 trillion by year 2012, which will be equal to the projected GDP of Japan in year 2000 and that of the US in year 2012.

At the same time, the rate of growth of consumption in China is rapidly increasing. For example, China's grain consumption has doubled from 170 million tons in 1970 to 340 million in 1990 and is expected to reach 408 million tons by the year 2000. With only 7% of the world farmland, China will increasingly depend on grain imports. Meat consumption is growing now at more than 14% per year. Oil consumption, started to exceed the oil production in 1992 and the deficit is growing at a rate of over 20% as consumption grows at 12% and production at only 2-3% per year.

For twenty years, exports have been a major pillar of the Chinese economic growth. Exports of manufactured goods and imports of high technology and advanced machinery and equipment are increasing aggressively. Last year, exports accounted for 19% of gross domestic product. The total value reached US\$ 183 billion, almost 20 times of the size in 1978. With China's process in regaining World Trade Organization (WTO) membership, the exports, in which it is globally competitive, will increase. On the other hand, China has to open its door to increase imports in other sectors. All of this has resulted in making China's foreign trade grow at a rate of over 12% in volume and 13.2% in value per year. China is expected to surpass Japan in foreign trade within 5 years and the US within 20 years if current trends are maintained.

With its ever-growing population, the increasingly closer trading relationship between China and other countries and its rapid economic development, the maritime industry in China will develop intensively and extensively in the new millennium.

China enjoys a coastline of 18,000 kilometres in length and major waterways such as Yangtze, Pearl and Yellow Rivers. Since 1985 China has invested more in its port development than the rest of the world combined. It has not only modernised and expanded its ports, but also developed many new ports. Container terminal developments along the coast are expected to continue with an average of 800,000 TEU capacity added each year. By year 2000, China is expected to have container traffic of over 25 million TEUs, including Hong Kong.

China today has one of the largest and most modern ocean-going fleet which includes large containerships and very large tankers and bulk carriers. China's fleet carries over 70% of its raw material and nearly 50% of its foreign trade by volume and about 38% by value. China's total ocean-going fleet is now estimated to consist of about 1900 vessels with a capacity of about 36 million dwt.

Its cautious port and fleet expansion and development have been linked increasingly to internal infrastructure and economic development in line with the opening policy. In 1984, the first foreign-flagged ship owned by a foreign shipping company called at Chinese port; in 1986, the first representative office of a foreign shipping company was set up in China and in the same year, the first joint venture with foreign shipping company was established; in 1991, the first solely foreign-owned shipping company was set up in China. Today, there are in China more than 120 joint-ventured shipping companies, 350 representative offices of foreign shipping companies, 70 solely foreign-owned shipping companies and 15 representative offices of 8 foreign classification societies. Chinese government has entered into maritime agreement with 52 countries (Hong, 1999).

On top of all the above is the nation-wide restructuring of state-owned enterprises. In some sectors, reforms have been carried out. In shipbuilding industry, the year 1999 saw the radical restructuring of the sector which previously had 1,375 shipbuilding and repair enterprises, many of which were small operations. As a result, the China State Shipbuilding Corp (CSSC), the quasi-ministerial entity that has controlled all of China's yards since 1982, was split into two, South Group and North Group. In this way, the administration and management of an enterprise were separated and the monopoly was replaced by dynamic market with healthy competition. Today China is the third largest shipbuilding country in the world, after Korea and Japan and a long way from its 17th place in the 1980s. Tremendous changes have also taken place in shipping industry. The China Ocean Shipping (Group) Company (COSCO), one of the biggest shipping companies in the world and the biggest in China, which used to handle export/import orders from the Ministry of Foreign Trade and Economic Cooperation (MOFTEC) through the Ministry of Communications (MOC), has been streamlined into three separate groups for bulk operations, containers and general cargo. Each group is responsible of its own performance. The whole group now enjoys 80,000 staff, the second biggest bulk fleet in the world and the fourth biggest container fleet. In the meantime, domestic competition has become tense, as well as

the competition from overseas shipping companies, which started operation in China in the early 1990s under favourable policies from the Chinese government. These are the driven forces for China's shipping market to grow.

In short, since the adoption of China's market economy and opening policy, Chinese economy has been growing at an amazing speed and has become the world's tenth largest trading nation. Maritime industry, as a result, will continue to grow at a phenomenal pace. All these provide great opportunities for classification societies.

5.2 Development of CCS

As classification society is the technical service provider to the shipping industry and shipping is by nature an international industry, the classification societies have to face all the aspects of globalisation, i.e. global market, global competition, different legal frameworks and different maritime policies. The establishment of CCS is a result of the globalisation in China's maritime sector.

One cannot speak about CCS without remembering the Register of Shipping of People's Republic of China (ZC). Historically, ZC had been the only organisation of this nature in China rendering classification service. It was established by the MOC in 1956. In 1959, ZC established its Rules and Regulations for Classification Surveys and Statutory Surveys of Steel Ships and started to provide ship classification services. In 1963, the State Council of China adopted the Regulation of the Register of Shipping of People's Republic of China whereby ZC became the authorised technical organisation to carry out the statutory survey on behalf of the State. Besides, ZC also carried out classification surveys and surveys related to notarial matters. Regulations, Rules and Certification were unified and the quasi-governing body, i.e. the Technical Committee was established.

The following decade saw the Cultural Revolution, during which the national economy was deteriorated to such an extent that it will take years and years to catch up with the outside world.

In 1973, the Chinese Government regained its status with IMO. ZC served as the authorised organisation to conduct statutory surveys and issue certificates in accordance with the relevant international conventions. In 1978, when China adopted its reform and opening policy, ZC published in English the Rules for the Construction of Sea-going Steel Ships and started to prepare for establishment of permanent overseas offices. In 1983, the first Register of Ships of ZC was published and in the same year, the Computer-aided Plan Approval Software System (COMPASS) and the Ship Survey Management Information System (SSMIS) were developed.

ZC, in every sense, was a domestic-oriented governmental agency at that time. When faced with a trend of globalisation, ZC needed radical changes. Policy changes, however, always take time. It was not until 1986 that CCS, the China Classification Society, was established within ZC to meet the growing need of market expansion. For the period from 1986 to 1998, ZC was coexisting with CCS while its role in providing survey service was diminishing and that in administration was strengthened. CCS, on the other hand, has been functioning as the body to undertake both classification surveys and statutory surveys to customers, both at home and abroad. In 1993, the class notation was changed from “★ZCA” to “★CSA 5/5”¹. In late 1998, with the nation-wide restructuring, ZC and CCS were split and ZC merged into the newly established Maritime Safety Administration of China as the national register and CCS became an independent, non-governmental, pure technical organisation.

¹indicating that the ships' hull and machinery have been constructed under the supervision of the Society and comply with the requirements of the Rules and are maintained in a good and efficient condition and suitable for sea-going services. The interval of its special survey is 5 years.

Despite the fact that there were ambiguous undefined areas in the organisation and management, ZC and CCS, or rather CCS since its establishment in 1986, have made remarkable progress in the past decade. In 1988, CCS joined the IACS as a full member, which was a great step forward and created great opportunities for CCS to enter the world market. In accordance with IACS QSCS, CCS set up its quality assurance system in compliance with ISO 9000 standards. It was recognised by USCG as complying with IMO Res. A. 739 (18) and by EU as complying with EU Directive 94/57 thus gaining access to an extended market. In 1996, CCS was included among other leading classification societies in the classification clauses of the Institute of London Underwriters (ILU) enabling CCS-classed ships to enjoy preferential insurance premium. For its even first time, CCS chaired the Council of IACS for the period from July 1996 to June 1997. Today CCS is known as a much more globalised classification society. Most importantly, CCS is backed by the ever growing national economy and a huge market where, as is generally believed, maritime people have to be if they want to do business in Asia.

5.3 CCS' activities in IACS

As stated above, CCS' involvement in IACS since 1988 has brought it to the forefront of the world maritime circle.

However, CCS was not an active Member in the first few years of its membership for many reasons as regards history, social and economic system, personnel, technology, etc. In 1992, IACS introduced QSCS as a compulsory requirements for membership and CCS, as a full Member, established its own quality assurance system in compliance with the requirements of QSCS. It successfully passed the audit and obtained the Quality System Certificate of Conformity in 1994, which marks a great progress in CCS' development. CCS has become more and more active ever since. In most of the IACS Working Groups dealing with specific technical subjects, CCS is represented and has started to share some of the working tasks. In the ongoing

discussions within the Association, great efforts have been made to try to contribute solutions with substantive content.

According to the rule of rotating chairmanship, CCS took up the Vice Chairmanship from 1995 to 1996 and Chairmanship from 1996 to 1997. There has been Member Societies giving up Chairmanship due to lack of confidence in various aspects. For a classification society with only 14 years of history and 10 years of involvement in the Association, it was a big challenge. The year from 1995 to 1997 were harsh years for classification societies as a whole because in 1995, the Association almost split into two resulting in a “superIACS” consisting of LR, ABS and DNV and the organisation was faced with consolidation and restoration of unity and reputation. It was even more challenging because IACS, as the focal point for ship safety regulations, was expected to submit to IMO its initiatives regarding bulk carrier safety. The year 1997 also saw, for its even first time in history, one of its Members suspended due to failure to comply with TOCA requirements when handling transfer of class of several vessels. Supported by all Member Societies, CCS succeeded in leading the organisation through the year. Not only IACS, but also CCS has become better understood and more widely respected for its integrity and contribution to safer ships and cleaner seas.

5.4 Strength and weakness as compared to other IACS Members

By 1999, CCS-classed ships amounted to 1,852 totalling 15.16 million gross tonnage. The average age of the fleet was reduced to 14 years. 23% of the classed vessels were flying foreign flags, taking up 30.7% of its total in terms of gross tonnage. It boasts 1,524 surveyors and technical staff, of which 60 are working abroad. By August 1999, CCS has set up 19 branches, 36 offices and survey stations, 2 Rules and Development centres, 2 training centres, including 18 overseas branches or offices. It has been authorised by 22 countries to carry out statutory surveys on their behalf.

Due to the historical so-called “genuine link” between the administration and classification in China, CCS is the only classification society authorised by Chinese Government to carry out statutory surveys on Chinese flagged vessels. While in countries such as UK and US, maritime administrations authorise several classification societies to do the job, leaving the local classification societies, i. e. LR and ABS, exposed to fierce competition. To some extent, CCS is protected by the government to monopolise the classification industry in China. (See Table 4)

State	Authorised classification societies
China	CCS
France	BV, DNV, GL, LR
Germany	BV, DNV, GL, LR
Japan	NK
Korea	KR, ABS
Norway	ABS, BV, DNV, GL, LR
Russia	RS
UK	ABS, BV, DNV, GL, LR, RINA
US	ABS, BV, DNV, GL, LR

Table 4

As stated above, China’s seaborne trade has been expanding intensively and extensively, which has generated a huge market for CCS. Mr Dong Jiufeng, the former Chairman and President of CCS once said, “CCS is happy; we can class more vessels.” (1997)

However, as is the case in most developing countries, CCS is faced with more challenges due to its weakness, either inherent or emerging.

CCS has benefited, on one hand, from its monopoly over the domestic classification industry but on the other hand, monopoly has reduced the competitiveness of CCS. As China has introduced market economy and opening policy, monopoly will be replaced in the future by a dynamic market with fair competitions. Less competitive, CCS will have to suffer, not benefit. According to latest statistics, the fleet owned by Chinese shipowners is in total 36 million gross tonnage, among which 20.15 million gross tonnage are flying “flag of convenience”. 18% of the ocean-going vessels owned by COSCO, which has been historically associated with CCS, are not flying Chinese flag. Obviously, they are not bound to class with CCS and instead, attracted by other classification societies providing better service. As a result, CCS-classed fleet reduced from 15,237,333 in 1998 to 14,300,000 in 2000 (See Table 5). Among the ten full IACS Members, CCS took the 8th place in 1998, the 9th place in 1999 and the tenth in 2000 in terms of gross tonnage classed.

Gross tonnage of IACS Member Societies, 1998, 1999 and 2000

Members	1998	1999	2000
ABS	88,959,280	93,692,824	95,122,175
BV	31,890,572	31,703,756	32,690,744
CCS	15,237,333	15,157,000	14,300,000
DNV	75,083,697	78,754,654	81,336,660
GL	26,562,384	28,958,553	29,876,506
KR	15,230,426	15,746,920	17,058,235
LR	101,500,000	98,300,000	99,600,000
NK	97,890,927	101,243,011	100,401,656
RINA	12,603,897	14,193,620	15,435,756
RS	19,848,851	17,577,223	14,748,566

Table 5

**Delegation of Authority by Administrations
to the Classification Societies**

Members	Number of Delegating Administrations	
	1998	1999
ABS	107	107
BV	125	127
CCS	20	22
DNV	139	139
GL	123	127
KR	25	29
LR	137	141
NK	91	92
RINA	65	69
RS	29	30

Table 6

In 1996, when CCS was applying for recognition by EC as per EC Directive 94/57, doubts were raised that CCS was not an independent organisation because most of the CCS-classed ships were owned by COSCO. With the majority of its classed fleet owned by one major shipowner, a classification society is more likely to “compromise” in order to please its customers and lose its independence to maintain safety standards. According to statistics, no more than 50% of the ships classed by CCS are owned by COSCO, which lifted doubts of EU. However, compared with most other Member Societies, this proportion is still higher. A credible class, as is generally believed, must be independent to avoid being governed by the shipowners or whatever parities to gain commercial benefit at the sacrifice of safety and environment.

There are some historical reasons. One cannot speak about classification society without looking at its history. Classification relies on the market share, reputation, experience and expertise built up through years. LR was set up in 1760, BV in 1828, RINA in 1861, ABS in 1862, DNV in 1864, GL in 1867, NK in 1899, RS in 1913, KR in 1960 and CCS in 1956 (1986). With only 44 years of history, 10 years deducted due to the “Culture Revolution”, CCS is not only disadvantageous in terms of gross tonnage classed, but also in many other aspects, such as delegation of authority, technical expertise, global network coverage and PSC detention rate.

**Technical staff and overseas offices
Of IACS Member Societies**

Members	Numbers of technical staff	Number of branches&offices
ABS	1875	227
BV	7800	540
CCS	1524	55
DNV	4400	300
GL	1670	156
KR	1600	40
LR	4500	280
NK		200
RINA	1550	50

Table 7

USCG announced list of Targeted class in 1999

IACS Members	Average Detention Ratio	“Targeted” and Points
RS	5.82%	Targeted/ Point 5
PRS	4.3	Targeted/ Point 5
CCS	3.93	Targeted/ Point 5
KR	1.48	Targeted/ Point 5
BV	1.29	Targeted/ Point 5
LR	0.94	N. A
RINA	0.82	N. A
GL	0.77	N. A
NK	0.72	N. A
DNV	0.71	N. A
ABS	0.44	N. A

Table 8

It is clearly shown in these tables that CCS is far from a very competitive classification society. Nobody can deny that CCS has experienced rapid growth these years but it is of great significance if it can speed up the pace of development or at least maintain the current trend. With today’s globalisation and technological development tremendously affecting all sectors, all classification societies are pursuing aggressive strategies. ABS launched Safehull system in 1993 causing “a frisson of alarm among rival classification societies”; BV set up new structures aiming at decentralisation to render more effective service; LR reinforced its marketing plan; DNV introduced “total safety class” strategy; NK strengthened its exclusive staff.

The reform in CCS in late 1998, separating administration from management, is aiming at a dynamic marketing mechanism, instead of a bureaucratic one. However, in a developing country where radical changes are taking place and many uncertainties are emerging, it takes time and experience. There is still a long way to go.

Chapter 6

Conclusions and recommendations

The 20th century saw unprecedented technological development and these developments will continue in the new millennium. The application of new technology to shipping and the increased international trade resulted in a booming shipping industry.

Shipping is international; in order to improve shipping safety, the most effective way is to take actions on an international basis. IMO has been working toward highest practicable international standards concerning maritime safety and widest possible acceptance and effective implementation of these standards at the global level. Facing greater challenges in the new era, IMO has adopted new policies as follows:

- A proactive policy so that trends which might adversely affect maritime safety may be identified at an early stage and action taken to prevent them being developed;
- A policy to bridge, to the extent possible, the gap between new and existing ship's safety standards;
- A policy to emphasize the role of the human element in maritime casualties;
- Last, but by no means least, the development of a safety culture in all maritime activities.

(Mitropoulous, 1999)

Safety culture cannot be achieved without a sound maritime chain being in place. The chain will surely break if one of the links breaks. As discussed in the previous chapters, classification society is one of the key links in the maritime safety chain.

The value of international classification is indisputable as an indispensable part of a complex system of international shipping industry. A total of 156 Flag States are signatory to international maritime safety conventions of the IMO, out of which more than 100 have authorised, either fully or partially, IACS Member Societies to verify continuing compliance by their vessels. With the ever growing need to minimise loss of life at sea and the concern about maritime environment, IACS, representing major classification societies, is facing many challenges in a world where accidents still occur, both constructive and destructive criticism are increasing and commercial pressures, reflecting those in the wider shipping industry, are affecting the commercial strategies of the IACS Societies. It is a well-known fact that the strongest classification societies have been suffering a considerable operating loss. On one hand, each classification society has to acknowledge the pressing need to optimise management mechanism and on the other hand, classification societies as a whole have to face public outcry in the wake of maritime disasters. What pleases one does not always find favour with the other; short-term considerations might override the need for long term balance. It is indeed very difficult to balance all these factors. IACS Members have been doing their job well but they must continuously strive to improve and to demonstrate that the traditional class rules remain safe.

CCS, a young classification society undergoing radical changes, needs to strive even harder. As one of the most promising countries in the world, China's economy has developed with high speed. Future entry into the World Trade Organisation in late 2000, or early 2001 will to a large extent accelerate its economic growth and the growth of foreign trade. All these will create both opportunities and challenges for CCS.

Taking into account the strength and weakness, opportunities and threats, efforts are to be made in the following aspects:

1. Better co-operation with Flag State and Port State by offering substantial assistance
2. Retention of independence, irrespective of commercial, political and personal pressure
3. Building on a strong base through ceaseless efforts in research and development
4. Optimum management program enabling effective, constant feedback from surveys of ships in service and increased responsiveness to clients and to business opportunities
5. Focusing not only on technical aspects, but also on human factors and operational aspects
6. Transparency of information
7. Active participation in IACS activities and constant compliance with IACS QSCS
8. Building on human resources through dynamic personnel management mechanism

These requirements are not easy to meet.

By being an active Member of IACS, CCS is able to stand at the forefront of the industry but also exposes itself to tough competition. CCS needs to actively cooperate with Member Societies and at the same time strives to become more competitive by building up its strength. China, including Hong Kong, the shipping centre in Asia, is a huge market. It is of utmost importance for CCS to maintain its market share in such a huge market. Backed up by its home market, it should further expand its business to Southeast Asia and in the long run, establish a genuine global market.

A respected classification society is one with a dynamic global network committed to a full role in the industry's shared obligations for a safe, responsibly managed and operated world fleet. This is the goal CCS is working for and indeed, there is still a long way to go.

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IACS - Code of Ethics

1. Preamble

Classification Societies live on their reputation. Acceptance of their technical work can only be main-tained by continuously proving integrity and competence. The decisive bodies by which demand for the work and therefore for the existence of the Classification Societies is ultimately governed are National Administrations and Underwriters. The Societies cover fields with their classification work which are theirs for historic reasons, some of which would, however, be otherwise within the responsibility of the National Administrations. Classification is part of the required care for the overall safety of ships for which the National Administrations have traditionally accepted responsibility and Recognised Classification Societies' basic requirements for structural strength, and mechanical and electrical systems have thus been made mandatory. A good part of the Societies' sources of work are delegated statutory duties. The scope and extent of such delegations depend on how the National Administrations judge the abilities and the professional ethics of the Societies. The relation to Underwriters can only work by virtue of the fact that they continue to have a need for the services rendered by the Classification Societies. If, in their view, the statements of the Societies become insufficient or unreliable, Underwriters may use their own sources. Anything that is detrimental to the Societies' reputation for integrity and competence, must therefore be avoided.

The observance of the Code of Ethics is a requirement for membership of IACS and is an essential measure for safeguarding the reputation of IACS and its Member Societies. A surveyor must always be made to realize that all his activities are taken as indicative of his Society.

2. General

2.1 Guiding Principles

Each Society has to realize and to accept that the variety of Societies as reflected in IACS is desired from all perspectives.

2.2 Credibility

Each Society shall refrain from any improper or questionable methods including the use of false, incor-rect, incomplete or tendentious information in soliciting work and shall decline to pay or to accept commissions for securing such work. Each Society shall not use unethical means to obtain advancement in the marine field or to injure others in the marine community.

2.3 Confidentiality of Information

The Societies shall consider all submitted information and survey reports to be proprietary and the

contents or copies shall not be made available to another party, except as required by court order, legal proceedings, adherence to Flag State requests, or by Owner's authorization. (Any information published in the Register, including due dates of periodical surveys, are considered public information and available to any interested parties.)

2.4 Issuing Documents without Appropriate Action

No Society shall issue, stamp or endorse certificates/documents without performance of the respective surveys and/or the required appropriate actions.

3. Conduct

3.1 General

Competition among Societies must not be prevented, restricted or distorted. Competition helps to keep the Societies flexible, alert and cost-conscious to the benefit of the entire marine community. Competition between Societies shall be on the basis of services (technical and field) rendered to the marine industry but must not lead to compromises on safety of life and property at sea or to the lowering of technical standards.

3.2 Marketing

3.2.1. Each Member Society is free to market its technical and related activities in a manner considered

necessary to achieve its objectives. However, marketing methods should not be pursued to a position

which involves deliberate misrepresentation in order to obtain business to the detriment of other members.

3.2.2 A Society shall not knowingly pass on to another party any information which is client confidential so as to place that Society in a position of advantage.

3.2.3 A Member Society shall not knowingly undermine the reputation of another Member Society by

spreading false, incorrect or biased information.

3.2.4 In an effort to obtain the classification of a ship changing flag, a Society should not misrepresent

the degree of recognition of the present Society by the new National Administration.

3.3 Non-Acceptance of New Contractual Situation

If conditions and arrangements of existing bilateral agreements between Societies are changed following conclusion of (a) new agreement(s) by one of the parties to the original agreement with a third party, in favour of that party, the new situation shall be made public as necessary and shall be respected by the other party to the original agreement.

3.4 Dual Classification

No Society/Surveyor shall intentionally ignore existing dual classification arrangements with

another Society, i.e. perform surveys for his Society, as if the ship was single class only, without notifying the other Society at all.

One Society shall not prevent the other Society from participating directly in a survey on a vessel

which enjoys dual classification, should they wish to do so.

3.5 Unauthorized Surveying

3.5.1. It must not happen that a shipowner, having been reminded that surveys are overdue, presents

copies of survey reports of another Society which has previously performed these overdue surveys without being entitled to do so and without previously notifying the classifying Society at all.

3.5.2 No Society shall perform inspections of and/or issue certificates for materials, machinery, components, equipment, etc., on behalf of another Society unless entitled to do so, either by dual classification agreement or by individual authorization from the Society contracted to the owner.

3.6 Non-Implementation or Withdrawal of IACS Resolutions

3.6.1 If a Member Society decides not to implement an IACS Unified Requirement in part or totally or

withdraws an IACS Unified Requirement, that Society shall notify other Member Societies of this action. Such action shall not be used as a means for obtaining business to the disadvantage of other Members.

3.6.2 A Member Society shall not deliberately misinterpret the requirements of any IACS Resolution in

such a manner as to diminish the intent of the Resolution in order to obtain business.

3.7 Investigation into Ship Casualties

In accordance with the general principles laid down in Clause 1 of the IACS Charter, the societies shall

favour participation in formal investigations into ship casualties. However, only the society with which

the ship concerned is classed shall consider acceptance of an invitation to participate in any such formal investigation.

RESOLUTION A.739(18) adopted on 4 November 1993

**GUIDELINES FOR THE AUTHORIZATION OF ORGANIZATIONS
ACTING ON BEHALF OF THE ADMINISTRATION**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organisation concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

RECOGNIZING the importance of ships being in compliance with the provisions of relevant international conventions, such as SOLAS 74, Load Lines 66, MARPOL 73/78 and STCW 78, to ensure prevention of maritime casualties and marine pollution from ships,

NOTING that the Administrations are responsible for taking necessary measures to ensure that ships flying their States' flags comply with the provisions of such conventions, including surveys and certification,

NOTING FURTHER that, under regulation I/6 of the 1974 SOLAS Convention and regulation 4 of Annex I and regulation 10 of Annex II of MARPOL 73/78, the Administration may entrust the inspections and surveys to nominated surveyors or recognised organisations and further that the Administration shall notify the Organisation of the specific responsibilities and conditions of the authority delegated to nominated surveyors or recognised organisations,

DESIRING to develop uniform procedures and a mechanism for the delegation of authority to, and the minimum standards for, recognised organisations acting on behalf of the Administration, which would assist flag States in the uniform and effective implementation of the relevant IMO conventions,

HAVING CONSIDERED the recommendations made by the Maritime Safety Committee at its sixty-second session and by the Marine Environment Protection Committee at its thirty-fourth session,

1. ADOPTS the Guidelines for the Authorisation of Organisations Acting on behalf of the Administration, set out in the Annex to the present resolution;
2. URGES Governments as soon as possible to: (a) apply the said Guidelines; and (b) review the standards of already recognised organisations in the light of the

Minimum Standards for recognised organisations acting on behalf of the Administration set out in Appendix I to the Annex to the present resolution;

3. REQUESTS the Maritime Safety Committee and the Marine Environment Protection Committee:

(a) to review the Guidelines and Minimum Standards with a view to improving them as necessary; and

(b) to develop, as a matter of urgency, detailed specifications on the precise survey and certification functions of recognised organisations;

4. REQUESTS the Secretary-General to collect from Member Governments information on the implementation of the present resolution.

GUIDELINES FOR THE AUTHORIZATION OF ORGANIZATIONS ACTING ON BEHALF OF THE ADMINISTRATION

General

1. Under the provisions of regulation I/6 of SOLAS 74Y article 13 of Load Lines 66, regulation 4 of Annex I and regulation 10 of Annex 11 of MARPOL 73/78 and article 6 of Tonnage 69, many flag States authorise organisations to act on their behalf in the surveys and certification and determination of tonnage as required by these conventions.

2. Control in the assignment of such authority is needed in order to promote uniformity of inspections and maintain established standards. Therefore, any assignment of authority to recognised organisations should:

2.1 determine that the organisation has adequate resources in terms of technical, managerial and research capabilities to accomplish the tasks being assigned, in accordance with the Minimum Standards for the Recognised Organisations Acting on behalf of the Administration set out in appendix 1;

2.2 have a formal written agreement between the Administration and the organisation being authorised which should as a minimum include the elements as set out in appendix 2 or equivalent legal arrangements;

2.3 specify instructions detailing actions to be followed in the event that a ship is found not fit to proceed to sea without danger to the ship or persons on board, or presenting unreasonable threat of harm to the marine environment;

2.4 provide the organisation with all appropriate instruments of national law giving effect to the provisions of the conventions or specify whether the Administration's standards go beyond convention requirements in any respect; and

2.5 specify that the organisation maintains records which can provide the Administration with data to assist in interpretation of convention regulations.

Verification and monitoring

3 The Administration should establish a system to ensure the adequacy of work performed by the organisations authorised to act on its behalf. Such a system should, *inter alia*, include the following items:

- 3.1 Procedures for communication with the organisation
- 3.2 Procedures for reporting from the organisation and processing of reports by the Administration
- 3.3 Additional ship's inspections by the Administration
- 3.4 The Administration's evaluation/acceptance of the certification of the organisation's quality system by an independent body of auditors recognised by the Administration
- 3.5 Monitoring and verification of class related matters, as applicable.

Appendix I

MINIMUM STANDARDS FOR RECOGNIZED ORGANIZATIONS ACTING ON BEHALF OF THE ADMINISTRATION

An organisation may be recognised by the Administration to perform statutory work on its behalf subject to compliance with the following minimum conditions for which the organisation should submit complete information and substantiation.

General

1. The relative size, structure, experience and capability of the organisation commensurate with the type and degree of authority intended to be delegated thereto should-be demonstrated.

2. The organisation should be able to document extensive experience in assessing the design, construction and equipment of merchant ships and, as applicable, their safety management system.

Specific provisions

3. For the purpose of delegating authority to perform certification service of a statutory nature in accordance with regulatory instruments which require the ability to review applicable engineering designs, drawings, calculations and similar technical information to technical regulatory criteria as dictate by the Administration and to conduct field survey and inspection to ascertain the degree of compliance of structural and mechanical systems and components with such technical criteria, the following should apply:

3.1 The organisation should provide for the publication and systematic maintenance of rules and/or regulations in the English language for the design, construction and certification of ships and their associated essential engineering systems as well as the provision of an adequate research capability to ensure appropriate updating of the published criteria.

3.2 The organisation should allow participation in the development of its rules and/or regulations by representatives of the Administration and other parties concerned.

3.3 The organisation should be established with:

3.3.1 a significant technical, managerial and support staff catering also for capability of developing and maintaining rules and/or regulations; and

3.3.2 a qualified professional staff to provide the required service representing an adequate geographical coverage and local representation as required.

3.4 The organisation should be governed by the principles of ethical behaviour, which should be contained in a Code of Ethics and as such: recognise the inherent responsibility associated with a delegation of authority to include assurance as to the adequate performance of services as well as the confidentiality of related information as appropriate.

3.5 The organisation should demonstrate the technical, administrative and managerial competence and capacity to ensure the provision of quality services in a timely fashion.

3.6 The organisation should be prepared to provide relevant information to the Administration.

3.7 The organisation's management should define and document its policy and objectives for, and commitment to, quality and ensure that this policy is understood, implemented and maintained at all levels in the organisation.

3.8 The organisation should develop, implement and maintain an effective internal quality system based on appropriate parts of internationally recognised quality standards no less effective than ISO 9000 series, and which, *inter alia*, ensures that:

3.8.1 the organisation's rules and/or regulations are established and maintained in a systematic manner;

3.8.2 the organisation's rules and/or regulations are complied with;

3.8.3 the requirements of the statutory work for which the organisation is authorised, are satisfied;

3.8.4 the responsibilities, authorities and interrelation of personnel whose work affects the quality of the organisation's services, are defined and documented;

3.8.5 all work is carried out under controlled conditions;

3.8.6 a supervisory system is in place which monitors the actions and work carried out by the organisation;

3.8.7 a system for qualification of surveyors and continuous updating of their knowledge is implemented;

3.8.8 records are maintained, demonstrating achievement of the required standards in the items covered by the services performed, as well as the effective operation of the quality system; and

3.8.9 a comprehensive system of planned and documented internal audits of the quality related activities in all locations is implemented.

3.9 The organisation should be subject to certification of its quality system by an independent body of auditors recognised by the Administration.

4. For the purpose of delegating authority to perform certification services of a statutory nature in accordance with regulatory instruments which require the ability to assess by audit and similar inspection of the relevant safety management system attributes of shore based ship management entities and shipboard personnel and systems, the following should, in addition, apply:

4.1 the provision and application of proper procedures to assess the degree of compliance of the applicable shore-side and shipboard safety management systems;

4.2 the provision of a systematic training and qualification regime for its professional personnel engaged in the safety management system certification process to ensure proficiency in the applicable quality and safety management criteria as well as adequate knowledge of the technical and operational aspects of maritime safety management; and

4.3 the means of assessing through the use of qualified professional staff the application and maintenance of the safety management system both shore based as well as on board ships intended to be covered in the certification.

Appendix 2

ELEMENTS TO BE INCLUDED IN AN AGREEMENT

A formal written agreement or equivalent between the Administration and the recognised organisation should as a minimum cover the following items:

1. Application

2. Purpose

3. General conditions

4. The execution of functions under authorisation

4.1 Functions in accordance with the general authorisation

4.2 Functions in accordance with special (additional) authorisation

4.3 Relationship between the organisation's statutory and other related activities

4.4 Functions to co-operate with port States to facilitate the rectification of reported port State control deficiencies or the discrepancies within the organisation's purview.

5. Legal basis of the functions under authorisation

5.1 Acts, regulations and supplementary provisions

5.2 Interpretations

5.3 Deviations and equivalent solutions

6. Reporting to the Administration

6.1 Procedures for reporting in the case of general authorisation

- 6.2 Procedures for reporting in the case of special authorisation
- 6.3 Reporting on classification of ships (assignment of class, alterations and cancellations), as applicable
- 6.4 Reporting of cases where a ship did not in all respects remain fit to proceed to sea without danger to the ship or persons on board or presenting unreasonable threat of harm to the environment
- 6.5 Other reporting

- 7 Development of rules and/or regulations - Information
 - 7.1 Co-operation in connection with development of rules and/or regulations - liaison meetings
 - 7.2 Exchange of rules and/or regulations and information
 - 7.3 Language and form

- 8 Other conditions
 - 8.1 Remuneration
 - 8.2 Rules for administrative proceedings
 - 8.3 Confidentiality
 - 8.4 Liability
 - 8.5 Financial responsibility
 - 8.6 Entry into force
 - 8.7 Termination
 - 8.8 Breach of agreement
 - 8.9 Settlement of disputes
 - 8.10 Use of sub-contractors
 - 8.11 Issue of the agreement
 - 8.12 Amendments

- 9 Specification of the authorisation from the Administration to the organisation
 - 9.1 Ship types and sizes
 - 9.2 Conventions and other instruments, including relevant national legislation
 - 9.3 Approval of drawings
 - 9.4 Approval of material and equipment
 - 9.5 Surveys
 - 9.6 Issuance of certificates
 - 9.7 Corrective actions
 - 9.8 Withdrawal of certificates
 - 9.9 Reporting

- 10 The Administration's supervision of duties delegated to the organisation
 - 10.1 Documentation of quality assurance system
 - 10.2 Access to internal instructions, circulars and guidelines
 - 10.3 Access by the Administration to the organisation's documentation relevant to the Administration's fleet

- 10.4 Co-operation with the Administration's inspection and verification work
10.5 Provision of information and statistics on, e.g. damage and casualties relevant to the Administration's fleet.

Appendix 3

Some other IMO resolutions and circulars concerning the Authorisation of recognised organisations acting on behalf of maritime administration as follows:

IMO Resolution A.789(19) “Specifications on the survey and certification functions of recognised organisations acting on behalf of the Administration”.

IMO Resolution A.847(20) “Guidelines to assist flag states in the implementation of IMO instruments”.

IMO MSC/Circ.710/IMO MEPC/Circ.307 “Model agreement for the authorisation of recognised organisations acting on behalf of the Administration”.

IMO MSC/Circ.788/IMO MEPC/Circ.325 “Authorisation of recognised organisations acting on behalf of Administration”.

Appendix 3

Council Directive 94/57/EC of 22 November 1994 on common rules and standards for ship inspection and survey organizations and for the relevant activities of maritime administrations

Official Journal L 319 , 12/12/1994 p. 0020 - 0027

Finnish special edition....: Chapter 7 Volume 5 p. 178

Swedish special edition....: Chapter 7 Volume 5 p. 178

COUNCIL DIRECTIVE 94/57/EC of 22 November 1994 on common rules and standards for ship inspection and survey organizations and for the relevant activities of maritime administrations

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community and in particular Article 84 (2) thereof,

Having regard to the proposal from the Commission (1),

Having regard to the opinion of the Economic and Social Committee (2),

Acting in accordance with the procedure referred to in Article 189c of the Treaty (3),

Whereas in its resolution of 8 June 1993 on a common policy on safe seas, the Council has set the objective of removing all substandard vessels from Community waters and has given priority to Community action to secure the effective and uniform implementation of international rules by elaborating common standards for classification societies (4);

Whereas safety and pollution prevention at sea may be effectively enhanced by strictly applying international conventions, codes and resolutions while furthering the objective of freedom to provide services;

Whereas the control of compliance of ships with the uniform international standards for safety and prevention of pollution of the seas is the responsibility of flag and port States;

Whereas Member States are responsible for the issuing of international certificates for safety and pollution provided for under conventions such as Solas 74, Load Lines 66 and Marpol 73/78, and for the implementation of the provisions thereof;

Whereas in compliance with such conventions all Member States may authorize to a various extent technical organizations for the certification of such compliance and may delegate the issue of the relevant safety certificates;

Whereas worldwide a large number of the existing classification societies do not ensure either adequate implementation of the rules or reliability when acting on behalf of national administrations as they do not have adequate structures and experience to be relied upon and to enable them to carry out their duties in a highly professional manner;

Whereas the objective of submitting classification societies to adequate standards cannot be sufficiently achieved by the Member States acting individually and can be better achieved by the Community;

Whereas the appropriate way to act is by means of a Council Directive laying down

minimum criteria for recognition of organizations, while leaving recognition itself, the means of enforcement, and the implementation of the Directive to the Member States; Whereas EN 45004 and EN 29001 standards combined with International Association of Classification Societies (IACS) standards constitute an adequate guarantee of performance quality of organizations;

Whereas the issue of the Cargo Ship Safety Radio Certificate may be entrusted to private bodies having sufficient expertise and qualified personnel;

Whereas organizations wishing to be recognized for the purpose of this Directive must submit to the Member States complete information and evidence of their compliance with the minimum criteria, and the Member States must notify to the Commission and to the other Member States the organizations they have recognized;

Whereas a three-year recognition may be granted by the Commission for organizations which do not meet the criteria fixing the minimum number and tonnage of classed vessels and minimum number of exclusive surveyors laid down in the Annex but meet all the other criteria; whereas such organizations should be granted an extension of recognition after the period of three years provided they continue to meet the same criteria; whereas the effects of the three-year recognition should be limited to the requesting Member States, for that period only;

Whereas the establishment of the internal market involves free circulation of services so that organizations meeting a set of common criteria which guarantee their professionalism and reliability cannot be prevented from supplying their services within the Community provided a Member State has decided to delegate such statutory duties; whereas such a Member State may nevertheless restrict the number of organizations it authorizes in accordance with its needs based on objective and transparent grounds, subject to control exercised by the Commission through the comitology procedures;

Whereas the implementation of the principle of freedom to provide ship inspection and survey services could be gradual, but not beyond prescribed time limits;

Whereas a tighter involvement of the national administrations in ship surveys and in the issue of the related certificates is necessary to ensure full compliance with the international safety rules even if the Member States rely upon organizations outside their administration for carrying out statutory duties; whereas it is appropriate, therefore, to establish a close working relationship between the administrations and the organizations, which may require that the organization has a local representation on the territory of the Member State on behalf of which it performs its duties;

Whereas a committee of a regulatory nature should be established in order to assist the Commission in its effort to ensure effective application of the existing maritime safety and environmental standards while taking account of the national ratification procedures;

Whereas the Commission must act according to the procedure laid down in Article 13 in order to take due account of progress in international fora and to update the minimum criteria;

Whereas on the basis of the information provided in accordance with Article 11 by the Member States about the performance of the organizations working on their behalf, the Commission will decide whether it will request Member States to withdraw the recognition of recognized organizations which no longer fulfil the set of common minimum criteria, acting in accordance with the procedure of Article 13;

Whereas Member States must nevertheless be left the possibility of suspending their authorization to an organization for reasons of serious danger to safety or environment; whereas the Commission must rapidly decide in accordance with the procedure referred to above whether it is necessary to overrule such national measure;

Whereas each Member State should periodically assess the performance of the organizations working on its behalf and provide the Commission and all the other Member States with precise information related to such performance;

Whereas Member States, as port authorities, are required to enhance safety and prevention of pollution in Community waters through priority inspection of vessels carrying certificates of organizations which do not fulfil the common criteria, thereby ensuring no more favourable treatment to vessels flying the flag of a third State;

Whereas the procedure by which the committee will decide should be Procedure III A of Article 2 of Council Decision 87/373/EEC of 13 July 1987 laying down the procedures for the exercise of implementing powers conferred on the Commission (5);

Whereas classification societies must update and enforce their technical standards in order to harmonize safety rules and ensure uniform implementation of international rules within the Community;

Whereas at present there are not uniform international standards to which all ships must conform at the building stage and during their entire life, as regards hull, machinery and electrical and control installations; whereas such standards may be fixed according to the rules of recognized classification societies or to equivalent standards to be decided by the national administrations in accordance with the procedure laid down in Council Directive 83/189/EEC of 28 March 1983 laying down a procedure for the provision of information in the field of technical standards and regulations (6),

HAS ADOPTED THIS DIRECTIVE:

Article 1

This Directive establishes measures to be followed by the Member States and organizations concerned with the inspection, survey and certification of ships for compliance with the international conventions on safety at sea and prevention of marine pollution, while furthering the objective of freedom to provide services. This process includes the development and implementation of safety requirements for hull, machinery and electrical and control installations of ships falling under the scope of the international conventions.

Article 2

For the purpose of this Directive:

- (a) 'ship' means a ship falling within the scope of the international conventions;
- (b) 'ship flying the flag of a Member State' means a ship registered in and flying the flag of a Member State in accordance with its legislation, including ships registered in Euros once that register is approved by the Council. Ships not corresponding to this definition are assimilated to ships flying the flag of a third country;
- (c) 'inspections and surveys' means inspections and surveys made mandatory by the international conventions;
- (d) 'international conventions' means the 1974 International Convention for the Safety of

Life at Sea, the 1966 International Convention on Load Lines and the 1973/78 International Convention for the Prevention of Pollution from Ships, together with the protocols and amendments thereto, and related codes of mandatory status in all Member States, in force at the date of adoption of this Directive;

- (e) 'organization` means a classification society or other private body carrying out safety assessment work for an administration;
- (f) 'recognized organization` means an organization recognized in conformity with Article 4;
- (g) 'authorization` means an act whereby a Member State grants an authorization or delegates powers to a recognized organization;
- (h) 'certificate` means a certificate issued by or on behalf of a Member State in accordance with the international conventions;
- (i) 'class certificate` means a document issued by a classification society certifying the structural and mechanical fitness of a ship for a particular use or service in accordance with its rules and regulations;
- (j) 'cargo ship safety radio certificate` means the certificate introduced by the amended Solas 74/78 Radio Regulations, adopted by the IMO and includes, during a transitional period ending on 1 February 1999, the Cargo Ship Safety Radiotelegraphy Certificate and the Cargo Ship Safety Radiotelephony Certificate;
- (k) 'location` refers to the place of the registered office, central administration or principal place of business of an organization.

Article 3

1. In assuming their responsibilities and obligations under the international conventions, Member States shall ensure that their competent administrations can assure an appropriate enforcement of the provisions of the international conventions, in particular with regard to the inspection and survey of ships and the issue of certificates and exemption certificates.

2. Where for the purpose of paragraph 1 a Member State decides with respect to ships flying its flag:

- (i) to authorize organizations to undertake fully or in part inspections and surveys related to certificates including those for the assessment of compliance with Article 14 and, where appropriate, to issue or renew the related certificates; or
- (ii) to rely upon organizations to undertake fully or in part the inspections and surveys referred to in subparagraph (i);

it shall entrust these duties only to recognized organizations.

The competent administration shall in all cases approve the first issue of the exemption certificates.

However for the cargo ship safety radio certificate these duties may be entrusted to a private body recognized by a competent administration and having sufficient expertise and qualified personnel to carry out specified safety assessment work on radio-communication on its behalf.

3. This Article does not concern the certification of specific items of marine equipment.

Article 4

1. Member States may only recognize such organizations which fulfil the criteria set out in the Annex. The organizations shall submit to the Member States from which recognition has

been requested complete information concerning, and evidence of, compliance with these criteria. The Member States will notify the organizations in an appropriate manner of their recognition.

2. Each Member State shall notify to the Commission and the other Member States those organizations it has recognized.

3. Member States may submit to the Commission a request for a recognition of three years for organizations which meet all the criteria of the Annex other than those set out under paragraph 2 and 3 of the section 'General' of the Annex.

Such recognition shall be granted in accordance with the procedure laid down in Article 13. The effects of this recognition shall be limited to the Member States which have submitted a request for such recognition.

4. All the organizations which are granted recognition shall be closely monitored by the committee set up under Article 7, also in view of deciding about extension of the recognition of organizations referred to in paragraph 3. A decision on the extension of such recognition shall not take into account the criteria set out under paragraphs 2 and 3 of the section 'General' of the Annex. The limitation of the effects of the recognition provided for in paragraph 3 shall no longer apply.

5. The Commission shall draw up and update a list of the organizations notified by the Member States in compliance with paragraphs 1, 3 and 4. The list shall be published in the Official Journal of the European Communities.

Article 5

1. In applying Article 3 (2) (i), Member States shall in principle not refuse to authorize any of the recognized organizations located in the Community to undertake such functions, subject to the provisions of Articles 6 and 11. However, they may restrict the number of organizations they authorize in accordance with their needs provided there are transparent and objective grounds for so doing. At the request of a Member State, the Commission shall, in accordance with the procedure laid down in Article 13, adopt appropriate measures.

2. By way of derogation, Member States may be temporarily exempted by the Commission from the implementation of the provisions of paragraph 1 until 31 December 1997.

3. In order for a Member State to accept that an organization located in a third State is to carry out the duties mentioned in Article 3 or part of them it may request that the said third State grant a reciprocal recognition for those recognized organizations which are located in the Community.

Article 6

1. Member States which decide to act as described in Article 3 (2), shall set out a working relationship between their competent administration and the organizations acting on their behalf.

2. The working relationship shall be regulated by a formalized written and non-discriminatory agreement or equivalent legal arrangements setting out the specific duties and functions assumed by the organizations and including at least:

- the provisions set out in Appendix II of IMO Resolution A.739 (18) on guidelines for the authorization of organizations acting on behalf of the administration as it stands at the date of adoption of this Directive,

- provisions for a periodical audit by the administration or by an impartial external body appointed by the administration into the duties the organizations are undertaking on its behalf,
- the possibility for random and detailed inspections of ships,
- provisions for reporting essential information about their classed fleet, changes of class or declassing of vessels.

3. The agreement or equivalent legal arrangement may set the requirement that the recognized organization has a local representation on the territory of the Member State on behalf of which it performs the duties referred to in Article 3. A local representation of a legal nature ensuring legal personality under the law of the Member State and the competence of its national courts may satisfy such requirement.

4. Each Member State shall provide the Commission with precise information on the working relationship established in accordance with this Article. The Commission shall subsequently inform the other Member States.

Article 7

A committee composed of the representatives of the Member States and chaired by the representative of the Commission is hereby instituted to assist the Commission. This committee shall be called by the Commission at least once a year and whenever required in the case of suspension of authorization of an organization by a Member State under the provisions of Article 10.

The Committee shall draw up its rules of procedure.

Article 8

1. This Directive may be amended in accordance with the procedure laid down in Article 13, in order to:

- apply, for the purposes of this Directive, subsequent amendments to the international codes and resolution mentioned in Articles 2 (d) and 6 (2), which have entered into force,
- update the criteria in the Annex taking into account, in particular, the relevant decisions of the IMO.

2. Following the adoption of new instruments or protocols to the conventions referred to in Article 2 (d), the Council, acting on a proposal from the Commission, shall decide, taking into account the Member States parliamentary procedures as well as the relevant procedures within IMO, on the detailed arrangements for ratifying those new instruments or protocols, while ensuring that they are applied uniformly and simultaneously in the Member States.

Article 9

1. Each Member State may be requested, in accordance with the procedure laid down in Article 13, to withdraw the recognition of recognized organizations referred to in Article 4 which no longer fulfil the criteria set out in the Annex, where applicable.

2. In preparing drafts for a decision relating to the matters referred to in paragraph 1, the Commission shall take into account the reports and information mentioned in Articles 11 and 12. In preparing such draft measures, the Commission shall pay particular attention to the safety and pollution prevention performance records of the organizations. Draft decisions relating to the matters referred to in paragraph 1 shall also be submitted to the

committee by the Commission upon its own initiative or at the request of a Member State.

Article 10

Notwithstanding the criteria specified in the Annex, where a Member State considers that a recognized organization can no longer be authorized to carry out on its behalf the tasks specified in Article 3 it may suspend such authorization.

In the above circumstances the following procedure shall apply:

- (a) the Member State shall inform the Commission and the other Member States of its decision without delay, giving substantiated reasons therefore;
- (b) the Commission shall examine whether the suspension is justified for reasons of serious danger to safety or environment;
- (c) acting in accordance with the procedure laid down in Article 13, the Commission shall inform the Member State whether or not its decision to suspend the authorization is justified for reasons of serious danger to safety or environment and, if it is not justified, request the Member State to withdraw the suspension.

Article 11

1. Each Member State must satisfy itself that the recognized organizations acting on its behalf for the purpose of Article 3 (2), effectively carry out the functions referred to in that Article to the satisfaction of its competent administration and that such organizations fulfil the criteria specified in the Annex. It may do so by having the recognized organizations directly monitored by its competent administration or, in the case of organizations located in another Member State, by relying upon the corresponding monitoring of such organizations by the administration of another Member State.
2. Each Member State shall carry out this task on a biennial basis and shall provide the other Member States and the Commission with a report of the results of this monitoring at the latest by 31 March of each year following the years for which compliance has been assessed.
3. Where a Member State chooses, for the purpose of carrying out this task, to rely upon monitoring by another Member State, its report shall be provided at the latest by 30 June of each year following the year for which compliance has been assessed.
4. Member States shall forward to the Commission and the other Member States any information relevant to the assessment of the performance of organizations.

Article 12

1. In exercising their inspection rights and obligations as port states:

- (a) Member States shall ensure that ships flying a third State flag are not treated more favourably than ships entitled to fly the flag of a Member State. To this end the fact that the ship certificates and the class certificate are known to have been delivered by an organization which does not fulfil the criteria of the Annex, with the exception of organizations recognized in accordance with Article 4 (3) and (4), shall be taken as one of the primary criteria for selecting ships for inspection.
- (b) Member States shall take appropriate measures when ships do not meet the internationally agreed standards and shall report to the Commission and the Secretariat of the Memorandum of Understanding on Port State Control the discovery of any issue of valid

certificates by organizations acting on behalf of a flag State to a ship which does not fulfil the relevant requirements of the international conventions, or any failure of a ship carrying a valid class certificate and relating to items covered by that certificate.

2. Each Member State shall establish a performance record of the organizations acting on behalf of flag States. This performance record shall be updated yearly and distributed to the other Member States and the Commission.

Article 13

The following procedure shall apply for matters covered by Article 4 (3) and (4), Article 5 (1) and Articles 8, 9, 10 and Article 14 (2):

(a) The representative of the Commission shall submit to the committee referred to in Article 7 a draft of the measures to be taken.

(b) The committee shall deliver its opinion on the draft within a time limit which the chairman may lay down according to the urgency of the matter. The opinion shall be delivered by the majority laid down in Article 148 (2) of the Treaty in the case of decisions which the Council is required to adopt on a proposal from the Commission. The votes of the representatives of the Member States within the committee shall be weighted in the manner set out in that Article. The chairman shall not vote.

(c) The Commission shall adopt the measures envisaged if they are in accordance with the opinion of the committee.

(d) If the measures envisaged are not in accordance with the opinion of the committee, or if no opinion is delivered, the Commission shall, without delay, submit to the Council a proposal relating to the measure to be taken. The Council shall act by a qualified majority. If, within three months from the date of referral to it, the Council has not acted, the proposed measure shall be adopted by the Commission.

Article 14

1. Each Member State shall ensure that ships flying its flag shall be constructed and maintained in accordance with the hull, machinery and electrical and control installation requirements of a recognized organization.

2. A Member State may decide to use rules it considers equivalent to those of a recognized organization only on the proviso that it immediately notified them to the Commission in conformity with the procedure of Directive 83/189/EEC and to the other Member States and they are not objected to by another Member State or the Commission and found through the procedure of Article 13 not to be equivalent.

Article 15

1. The recognized organizations shall consult with each other periodically with a view to maintaining equivalence of their technical standards and the implementation thereof. They shall provide the Commission with periodic reports on fundamental progress in standards.

2. The recognized organizations shall demonstrate willingness to cooperate with port State control administrations when a ship of their class is concerned, in particular, in order to facilitate the rectification of reported deficiencies or other discrepancies.

3. The recognized organizations shall provide all relevant information to the administration about changes of class or declassing of vessels.

4. The recognized organizations shall not issue certificates to a ship declassified or changing class for safety reasons before consulting the competent administration of the flag State to determine whether a full inspection is necessary.

Article 16

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with the Directive no later than 31 December 1995.

2. When Member States adopt these provisions, they shall contain a reference to this Directive or shall be accompanied by such reference on the occasion of their official publication. The methods of making such a reference shall be laid down by the Member States.

3. The Member States shall immediately communicate to the Commission the text of all the provisions of domestic law which they adopt in the field governed by this Directive. The Commission shall inform the other Member States thereof.

Article 17

This Directive is addressed to the Member States.

Done at Brussels, 22 November 1994.

For the Council

The President

M. WISSMANN

ANNEX

MINIMUM CRITERIA FOR ORGANIZATIONS REFERRED TO IN ARTICLE 3

A. GENERAL

1. The recognized organization must be able to document extensive experience in assessing the design and construction of merchant ships.

2. The organization should have in its class a fleet of at least 1 000 ocean-going vessels (over 100 GRT) totalling no less than 5 million GRT.

3. The organization must employ a technical staff commensurate with the number of vessels classed. As a minimum, 100 exclusive surveyors would be needed to meet the requirements in paragraph 2.

4. The organization should have comprehensive rules and regulations for the design, construction and periodic survey of merchant ships, published and continually upgraded and improved through research and development programmes.

5. The organization should have its register of vessels published on an annual basis.

6. The organization should not be controlled by shipowners or shipbuilders, or by others engaged commercially in the manufacture, equipping, repair or operation of ships. The organization should not be substantially dependent on a single commercial enterprise for its revenue.

B. SPECIFIC

1. The organization is established with:

(a) a significant technical, managerial, support and research staff commensurate to the tasks and to the vessels classed, catering also for capability - developing and upholding rules and regulations;

(b) world-wide coverage by its exclusive technical staff or through exclusive technical staff of other recognized organizations.

2. The organization is governed by a code of ethics.

3. The organization is managed and administered in such a way as to ensure the confidentiality of information required by the administration.

4. The organization is prepared to provide relevant information to the administration.

5. The organization's management has defined and documented its policy and objectives for, and commitment to, quality and has ensured that this policy is understood, implemented and maintained at all levels in the organization.

6. The organization has developed, implemented and maintains an effective internal quality system based on appropriate parts of internationally recognized quality standards and in compliance with EN 45004 (inspection bodies) and with EN 29001, as interpreted by the IACS Quality System Certification Scheme Requirements, and which, inter alia, ensures that:

(a) the organization's rules and regulations are established and maintained in a systematic manner;

(b) the organization's rules and regulations are complied with;

(c) the requirements of the statutory work for which the organization is authorized are satisfied;

(d) the responsibilities, authorities and interrelation of personnel whose work affects the quality of the organization's services are defined and documented;

(e) all work is carried out under controlled conditions;

(f) a supervisory system is in place which monitors the actions and work carried out by surveyors and technical and administrative staff employed directly by the organization;

(g) the requirements of major statutory work for which the organization is authorized are only carried out or directly supervised by its exclusive surveyors or through exclusive surveyors of other recognized organizations;

(h) a system for qualification of surveyors and continuous updating of their knowledge is implemented;

(i) records are maintained, demonstrating achievement of the required standards in the items covered by the services performed, as well as the effective operation of the quality system; and

(j) a comprehensive system of planned and documented internal audits of the quality related activities in all locations.

7. The organization must demonstrate ability:

(a) to develop and keep updated a full and adequate set of own rules and regulations on hull, machinery and electrical and control equipment having the quality of internationally recognized technical standards on the basis of which Solas Convention and Passenger Ship Safety Certificates (as regards adequacy of ship structure and essential shipboard machinery systems) and Load Line Certificates (as regards adequacy of ship strength) can be issued;

(b) to carry out all inspections and surveys required by the international conventions for the issue of certificates, including the means of assessing, through the use of qualified professional staff, the application and maintenance of the safety management system, both shore-based and on board ships, intended to be covered in the certification.

8. The organization is subject to certification of its quality system by an independent body of auditors recognized by the administration of the State in which it is located.

9. The organization should allow participation in the development of its rules and/or regulations by representatives of the administration and other parties concerned.