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Flag state implementation of the International Safety Management Code [ISM Code]

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FLAG STATE IMPLEMENTATION OF THE INTERNATIONAL SAFETY MANAGEMENT CODE

By

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Chile

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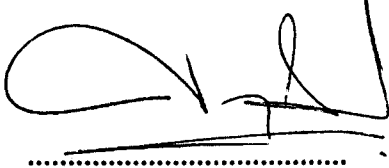
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in

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DECLARATION

I certify that all 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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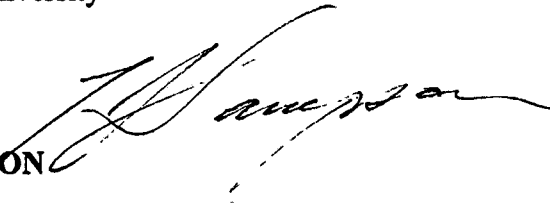
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The dissertation deals with the implementation of the International Management Code (ISM Code) for the Safe Operation of Ships and for Pollution Prevention by Flag States. A detailed analysis of the International Safety Management Code has been undertaken. The role of the human factor in maritime accidents has been explained.

The ISM Code implementation will require vessel operators to impose strict regimes for documentary processes and practices on board their ships. It will demand that this documentation is actively reviewed and updated. The Code requires a safety management system (SMS) to be established by the shipowner or manager to ensure compliance with all mandatory regulations and codes, guidelines and standards recommended by the International Maritime Organization (IMO) and others are taken into account.

The main part of this dissertation contains details about how to achieve the ISM Code certification process; the standards, responsibilities, qualifications and training of personnel pertaining to Administrations or other recognized institutions acting on behalf of the Administration that will be in charge of the Audit process are described.

The dissertation finishes with conclusions and recommendations for a successful implementation of the ISM Code in the shipping companies and the fulfillment of the Audits carried out by Administrations.

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LIST OF ABBREVIATIONS

DNV	Det Norske Veritas
DOC	Document of Compliance
FSI	Sub-Committee on Flag State Implementation
IMO	International Maritime Organization
ISM Code	International Safety Management Code
ISMA	International Shipmanagers' Association
ISO	International Standards Organization
MARPOL	International Convention for the Prevention of Pollution from Ships,1973 as modified by the Protocol of 1978 relating thereto
MEPC	Marine Environment Protection Committee
MSC	Maritime Safety Committee
P&I	Protection and Indemnity Clubs
SMC	Safety Management Certificate
SMS	Safety Management System
SOLAS 74	Conference of Contracting Governments for the Safety of Life at Sea, 1974
STCW 95	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended in 1995.

CHAPTER 1

GENERAL INTRODUCTION AND OBJECTIVES

1.1 Background

At the present time the statistics show that accidents in the marine industry are increasing rapidly. Severe accidents causing extensive loss of lives and extensive pollution have been too frequent during the last decades.

Some accidents have had high impact on society. Some of them have produced the starting point for international and national regulations, such as:

YEAR	ACCIDENT	REGULATION
1912	Titanic	SOLAS
1976	Amoco Cadiz	MARPOL / STCW
1987	Herald of Free Enterprise	IMO A.647
1988	Exxon Valdez	OPA 90 (Oil Pollution Act 1990-USA)
1989	Scandinavian Star	Management System Requirements

The International Management Code for the Safe Operation of Ships and for Pollution Prevention (International Safety Management (ISM) Code) was adopted by the International Maritime Organization (IMO) in the 1993 Assembly as resolution A.741(18) and given mandatory effect by Chapter IX of the International Convention for the Safety at Sea, (SOLAS), 1974, "Management for the Safe Operation of Ships". The ISM Code provides an international standard for the safe management and operation of ships and for pollution prevention. The Chapter is expected to enter into force under tacit acceptance on 1st July 1998. It will apply to passengers ships, oil and chemical tankers, bulk carriers, gas carriers and cargo high speed craft of 500 gross tonnage and above no later than that date and to other cargo ships and mobile offshore drilling units of 500 gross tonnage and above not later than 1st July 2002. However, many maritime administrations have started to enforce it earlier. Shipping companies are already presenting themselves for verification so that they, and their shipboard management, can demonstrate that they operate in compliance with the Code.

The ISM Code is considered one of the most important new initiatives towards safe operation and management of ships to prevent pollution developed by the International Maritime Organization; it may well revolutionize shipping operations.

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

i) to improve compliance with mandatory rules and regulations related to the safe operation of ships and protection of the environment; and

ii) to improve the effective implementation and enforcement by flag states.

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

The mandatory application of the ISM Code should ensure support and encourage that applicable codes, guidelines and standards recommended by the IMO, administrations, classification societies and maritime industry organizations are taken into account. This mandatory application should contribute in the development of a safety culture in shipping. Success factors for the development of a safety culture are inter alia commitment, values and beliefs, none of which can be achieved by mandatory enforcement.

The government of the state whose flag the ship is entitled to fly (hereinafter referred to as "the Administration") is responsible for verifying compliance with the requirements of the ISM Code and issuing Documents of Compliance (DOC) to companies. This document is a prerequisite for a company to operate ships and Safety Management Certificate (SMC) to ships. The requirements of this Code may be applied to all ships.

The practical implementation of the ISM Code leads to many questions. Who will do the auditing? - Will the auditors interpret the requirements in a uniform way throughout the world? - How will they be trained?. These questions will be analyzed in the following chapters.

Where different authorities and classification societies are involved in the ISM Code certification and class or statutory certification within the same company, arrangements shall be made for appropriate communications between them about the exchange of relevant information. This should be managed by the Administration when other organizations is acting on their behalf.

In general, the ISM Code implementation depends to a large extent on a proactive approach by all interested parties (administrations, companies, classification societies, other interested organizations), which should understand that it is a unique opportunity towards the development of a new safety culture in shipping.

A successful implementation of the ISM Code would be one of the key factors for changing the present system of surveys on board by many interested parties, such as flag administrations, port states, classification societies, underwriters, charters and other industrial organizations related with marine activities. The successful implementation might produce a significant reducing in the costs involved in the operation of ships, such as: insurance premiums, management, maintenance, operations, etc.

> *"Prevention is not only better but cheaper than cure. There is no necessary conflict between humanitarian and commercial considerations. Profits and safety are not in competition. On the contrary safety at work is good business"*
>
> *(Basil Butler, Manager Director, British Petroleum plc.).*

The implementation of safety quality systems requires a company or organization to arrange every aspect of its activity in a cost-effective manner which ensures that the service is designed, built and delivered to meet the customer's needs and expectations and complies with existing national and international rules and regulations. A vital part of this is making every member of the organization aware of the company's safety (quality) objectives and the importance of their individual role in achieving them. In other words, the organization have to apply the 'motivation concept' within their company.

The implementation of the ISM Code need not increase costs. Indeed it is more likely to save money by reducing costs. Above all, better standards should lead to higher reputation among existing and potential customers, which is a considerable asset in itself. The implementation of properly documented systems and procedures is a management responsibility, which can not be delegated. A properly constituted Quality and Safety department can produce a plan of action and scheme to be followed, but implementation is a management responsibility, both ashore and onboard every vessel.

1.2 Objectives of the ISM Code

The main objectives of the ISM Code can be resumed in the following items:

i) Compliance with mandatory rules and regulations.

ii) Observance of applicable codes, guidelines and standards recommended by IMO, administrations and other maritime industry organizations, and classification societies.

iii) Adequate safeguards are established against all identified risks.

iv) The continuous improvement of safety management skills of personnel ashore and aboard ships, and their preparation for handling emergencies, both safety end environmentally related.

v) Safe practices in ship operation and safe working environment.

vi) Ensure safety at sea, prevention of human injury or loss of life, avoidance of damage to the environment, in particular to the maritime environment and to property.

1.3 Definitions and elements of the ISM Code

1.3.1 Main Elements

The purpose of the ISM Code is to provide an international standard for the safe management and operation of ships and for pollution prevention. It is intended as a means to encourage continuous improvement of safety management skills in the maritime industry and can be applied to all ships. The ISM Code addresses the importance of designated persons and the various responsibilities within the company and requires management procedures to be documented, coordinated, and monitored in accordance with government and company requirements. The result is the company's Safety Management System.

The ISM Code is intended to re-orient the current approach to regulatory compliance from the industry's passive defect notification and correction response mode to an combative approach to safety. Under a proactive approach, potential discrepancies are resolved by the companies themselves, before they become significant safety or environmental problems. The ISM Code is expressed in broad terms so that it can have widespread application. Different levels of management, whether shore-based or at sea, will require varying levels of knowledge and awareness of the ISM Code content.

The cornerstone of a good safety management is commitment from the top. In matters of safety and pollution prevention it is the commitment, competence, attitudes and motivation of individuals at all levels that determines the end result.

The following are the ISM Code elements:

(1.0)   General

(2.0)   Safety and environmental policy

(3.0)   Company responsibilities and authority

(4.0)   Designated person(s)

(5.0)   Master's responsibility and authority

(6.0)   Resources and personnel

(7.0)   Development of plans for shipboard operations

(8.0)   Emergency preparedness

(9.0)   Reports and analysis of nonconformities, accidents and hazardous occurrences

(10.0) Maintenance of the ship and equipment

(11.0) Documentation

(12.0) Company verification, review and evaluation

(13.0) Certification, verification and control

The main elements of the ISM Code include:

i) those responsible for the management and operation of ships should take appropriate steps to develop, implement, and assess safety and pollution prevention management in accordance with IMO guidelines;

ii) guidelines concerning shipboard and shore-based management for safe operation of ships and the prevention of marine pollution, respectively;

iii) every state should take the necessary steps to ensure that the owner of a ship which flies the flag of that state provides such state with the current information necessary to enable it to identify and contact the person contracted or otherwise

entrusted by the owner to discharge his (sic) responsibilities for that ship in regard to matters relating to maritime safety and the protection of the marine environment;

iv) the necessary steps to safeguard the ship master in the proper discharge of his (sic) responsibilities in regard to maritime safety and protection of the marine environment; and

v) organization of management to enable it to respond to the need of those on board ships to achieve and maintain high standards of safety and environmental protection.

1.3.2 Framework of the ISM Code

It is the first three elements which form the theoretical framework for the ISM Code:

1.3.2.1 Element 1 Definitions, objectives, and functional requirements

a) Definitions:

i)	**International Safety Management (ISM) Code**	: means the International Management code for the Safe Operation of Ships and for Pollution Prevention as adopted by the Assembly, as may be amended by the Organization.
ii)	**Company**	: means the owner of the ship or any other organization or person such as the manager, or the bareboat chartered, who has assumed the responsibility for operation of the ship from the

shipowner and who, on assuming such responsibility, has agreed to take over all duties and responsibility imposed by the Code.

iii) **Administration** : means the Government of the State whose flag the ship is entitled to fly.

iv) **Document of Compliance** : (DOC) means a document issued to a Company and signifying compliance with the ISM Code.

v) **Safety Management Certificate** : (SMC) means a document issued to a ship and signifying compliance that the company and its shipboard management operate in accordance with the approved Safety Management System.

vi) **Safety Management Audit** : means a systematic and independent examination to determine whether the SMS activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.

vii) **Observation** : means a statement of fact made during a Safety Management Audit and substantiated by objective evidence.

viii) **Objective Evidence** : means quantitative or qualitative information, records or statements of fact pertaining to safety or to the existence and implementation

of a SMS element, which is based on observation, measurement or test and which can be verified.

ix)	**Nonconformity**	:	means an observed situation where factual evidence indicates the non-fulfillment of a specified requirement.
x)	**Major nonconformity**	:	means an identifiable deviation which poses a serious threat to personnel or ship safety or a serious risk to the environment and requires immediate corrective action; in addition the lack of effective and systematic implementation of a requirement of the ISM Code, is also considered as a major nonconformity.
xi)	**Auditor**	:	means a person performing verification of compliance with the requirements of the ISM Code and who fulfills the personal qualification and other pertinent requirements.
xii)	**Branch office**	:	means an office which is part of the Company, under its control and covered by the same Safety Management System.
xiii)	**Safety Management Manual**	:	is the documentation used to describe and implement the Safety Management System.

| xiv) | **Safety Management** **System** | : | (SMS) means a structured and documented system enabling Company personnel to effectively implement the Company safety and environmental protection policy. |

. ..

b) Functional Requirements for a Safety Management System (SMS):

i) A safety and environmental protection policy.

ii) Instructions and procedures to ensure safe operation of ships and protection of the environment in compliance with international and flag state legislation.

iii)Defined levels of authority and communication between, and among, shoreside and shipboard personnel.

iv)Procedures for reporting accidents and nonconformities with the provisions of the code.

v) Procedures to prepare for and respond to emergency situations.

vi)Procedures for internal audits and management reviews.

c) Objectives of the Code:

i) Ensure safety at sea.

ii) Prevention of human injury or loss of life.

iii)Avoidance of damage to the environment and property.

d) Safety management objectives of the company:

i) Provide for safe practices in ship operation.

ii) Establish safeguards against all identified risks.

iii)Continuous improvement of safety management skills for personnel ashore and on board.

iv)Preparation for emergencies related to safety and environmental protection.

e) Safety management system should ensure:

Compliance with mandatory rules and regulations taking into account applicable codes, guidelines and standards recommended by the organization, administrations, classification societies and maritime industry organizations.

1.3.2.2 Element 2 Safety and environmental protection policy

i) how to achieve stated objectives;

ii) clear and concise statements outlining philosophy of owner or operator;

iii)intent to comply with relevant regulations;

iv)encourage continuos improvement in safety practices and protection of environment;

v) provision to review and update as necessary; and employee awareness, comprehension and execution of policies.

1.3.2.3 Element 3 Company responsibilities and authority

i) ensure personnel ashore and on board are aware of their duties and responsibilities;

ii) provide organizational chart showing those responsible for ship operations;

iii)ensure adequate resources with necessary experience and qualifications;

iv)identify who is responsible for operation of ship if not the owner.

In summary, three main aspects of ship operation encompass:

i) personnel both ashore and on board;

ii) need for company policies on safety and pollution prevention;

iii)documented procedures on how specific tasks should be performed and verified for ongoing compliance with policies.

1.4 Conventions and resolutions associated with the ISM Code

1.4.1 Conventions

- *International Convention for the Safety of Life at Sea, 1974: SOLAS 74.* This convention provides a comprehensive range of minimum standards for the safe

construction of ships and for the basic safety equipment (i.e. fire prevention, navigational, lifesaving and radio) to be carried onboard. SOLAS 74 also contains operational instructions, particularly on emergency procedures, and provides for regular surveys and for the issuance of certificates of compliance. The three basic types of certification are:

- Safety Construction
- Safety Equipment
- Safety Radio

- *The International Bulk Carrier (IBC) and the International Gas Carrier (IGC) Codes,* mandatory requirements under SOLAS 74. The former is for transportation of dangerous chemicals in bulk and the latter is for the transportation of dangerous gases in bulk. Certification and periodic surveys are required to attest and confirm vessel compliance.

- *International Convention for the Prevention of Pollution from Ships as modified by the protocol of 1978: MARPOL 73/78.* This convention contains measures designed to prevent pollution caused both accidentally and in the course of routine operations. Five annexes in the convention cover pollution by oil, noxious liquid substances in bulk, harmful substances carried in packaged forms, sewage and garbage.

- *Conventions on the International Regulations for Preventing Collisions at Sea, 1972: COLREG.* These "rules of the road" provide basic provisions for rights of way, safe speed, action to avoid collision, and procedures to observe in narrow channels and in restricted visibility. Also included are navigational light requirements.

- *International Convention on Load Lines, 1966.* This convention sets the minimum permissible freeboard according to the season of the year and the trading area of the ship. It also contains special ship construction standards with regard to water tightness.

- *Merchant Shipping (Minimum Standards) Convention, 1976: International Labor Organization (ILO) Convention 147.* This convention requires Administrations to have effective legislation on safe crewing standards, hours of work, seafarers' competency, and social security. It also sets employment standards equivalent to those contained in a range of ILO instruments covering, for example, minimum age, medical care and examination, social security, and training.

- *International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1995: STCW 95.* This convention provides training, certification and qualification requirements for: senior officers; all officers in charge of watches in the deck, engine and radio departments; and rating forming part of a watch. All such seafarers are required to have a certificate, endorsed in a uniform manner. It also specifies basic principles to be observed in keeping deck and engine watches and special qualification requirements for personnel on oil, chemical, and liquefied gas tankers.

1.4.2 Resolutions

- *Principles of Safe Manning, A.481(12).* This was adopted on 19 November 1991. All Administrations were recommended to provide each of their registered ships with a document specifying the minimum number and grades of qualified seafaring personnel required to be carried.

- *Control by the Flag State Over the Owner of a Ship, A.441(11)*. This was adopted on 15 November 1979. The intent was to enhance the ability of the State to exercise control over the owner of a ship flying its flag or over the person contracted or otherwise entrusted by the owner of such ship to discharge her/his responsibilities in these matters.

- *General Principles for Ship Reporting Systems and Ship Reporting Requirements including Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances, and/or Marine Pollutants, A.648(16)*. This was adopted on 19 October 1989, in order to ensure that ship reporting systems and reporting requirements comply as closely as possible with the general principles specified in the annex of the resolution. Additionally, States having been advised of an incident may take such measures on the high seas as may be necessary to prevent, mitigate, or eliminate grave and imminent danger to their coastline or related interests from pollution or threat of pollution of the sea by oil and substances other than oil following a maritime casualty.

CHAPTER 2

IMPLICATIONS OF THE ISM CODE

2.1 Introduction

The ISM Code implementation will, no doubt, benefit the operators, the entire shipping industry and all the activities related with the marine environment as well. The main purpose of the ISM Code is to establish a framework to improve implementation and enforcement of international standards and regulations in regard to safety and environmental protection. It is felt that the ISM Code and its implementation will support the continuos development of a safety culture in shipping.

> *"The safety culture of an organization is the product of individual and group values, attitudes, perceptions, competencies, and patterns of behavior that determine the commitment to, and the style and proficiency of, an organization's health and safety management" (ACSNI Human Factors Study Group).*

The ISM Code ensures that the shipboard staff are adequately informed and equipped to carry out their operational responsibilities safely and in a better manner than without a Safety Management System implemented.

It is possible to understand that any company with a Safety Management System and being able to successfully implement the system onboard their vessels, is bound to place itself in an enviable position.

The Code ensures that the shipboard personnel are well prepared for contingencies and emergencies. This system definitely lead to a reduction in incidents, such as harm to people, damage to the environment, damage to the ship itself and the cargo, the effect of which may prove very costly to the shipowner.

A company with an ISM Certificate achieved through proper preparation of procedures and religious commitment to the implementation of the system, is bound to benefit from:

- Selection of properly trained personnel.
- Improvement in the safety management skills of the personnel.
- A culture that promotes awareness as regards safety and environmental protection.
- Increase in operational efficiency, optimize performance and minimize delays and other costs.
- Reduction in likelihood of accidents, insurance claims.
- Reduction in insurance premium rates.

2.2 Human element in maritime casualties

It is now widely known that the *'human error'* is involved in the vast majority of marine accidents. The studies carried out by the International Maritime Organization and Classification Societies show that the accident causes are produced by substandard actions and substandard conditions; 80% of them controlled by management and 20 % controlled by operator.

It is often claimed that about 80 % of the accidents or incidents are caused by 'human error' accidents which can also be named substandard practice and only 20 % falls into the category of failing technology also known as substandard conditions, but it is possible support that 100 % of all accidents or incidents are caused by the 'human factor'. Usually a whole chain of items and/or acts are involved. The human part can go back to the design of a system or piece of equipment or ship, to the construction, to the actual manufacturing process, to installations, etc.

For an effective understanding of these concepts it is necessary to define what an accident or incident is as well as the classification of human failures.

Accident: an undesired event that results in harm to people, damage to property or loss to process.

Incident: an undesired event which under slightly different circumstances could have resulted in harm to people, damage to property or loss to process.

Human failures can be classified in:

Latent failures have adverse effects which lie undetected, often for a very long period of time, and they usually become apparent when they combine with other factors to breach a system's defenses.

Active failures will have immediate effect and they can be divided into the following three categories:

i) Slips are the result of carelessness. Actions associated are: too long, too short, right action on wrong subject, action omitted or incomplete, check omitted.

ii) <u>Mistakes</u> are characterized by the use of inappropriate rules, the misuse of correct rules, an absence of rules, lack of knowledge of the task, working in an unfamiliar environment, misdiagnosis of the problem.

iii) <u>Violations</u> are failures where the individual knows the correct actions but knowingly carries out alternative actions. Reasons can be: inadequate supervision, lack of understanding of the reasons for the correct actions, *'this does not apply to me'*.

Table 1 shows that human errors range from misjudgment to ignorance and from folly to mischief. All of these failures in one way or another might produce an undesired accident. The human factor plays a very important role in the origin of the majority of the accidents. If these factors are known and controlled by the Company through their Safety Management System, they will be able to control the Human Factor in Ship Safety.

FACTORS: HUMAN FAILURE		
Fatigue	Wishful thinking	Misjudgment
Negligence	Mischief	Sloppiness
Ignorance	Laziness	Physical limits
Greed	Alcohol / drugs	Boredom
Folly	Lack of seriousness	Inadequate training

Table 1

The analysis of accidents where ships are involved give numerous examples of instances in which organizational deficiencies have produced or have resulted in a marine accident. The factors that produce negative effects on the organizational responsibility are shown in table 2.

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FACTORS: ORGANIZATIONAL FAILURES		
Time pressure	Language problems	Incentives
Cost / Profit incentives	Morale	Communication
Rules & Regulations	Appreciation / promotion	Production orientation
Management style		

Table 2

The United States Coast Guard (USCG) in the program "Prevention through People" has shown that human errors could be grouped into five categories as follows:

PREVENTION THROUGH PEOPLE (USCG)		
Management	:	Faulty legislation and standards, inadequate communications and coordination
Operator Status	:	Inattention and fatigue
Working Environment	:	Poor equipment design and hazardous natural environment.
Knowledge	:	inadequate general technical knowledge and inadequate knowledge of shipboard operations.
Decision making	:	Poor judgment and inadequate information

Table 3

The USCG Program provides the following strategy:

- Broad participation to address human error from an overall system perspective.
- Use of risk management tools to identify root causes and cost-effective measures.
- Proactive detection, assessment and prevention of human errors.
- Improvement of investigating methods, data collection, analyses and feedback.

2.3 Influence of ISM Code on other surveys

The verification of compliance with the ISM Code neither duplicates nor substitutes statutory surveys for other maritime certificates nor relieves the company, the master or any other entity or person involved in the management or operation of the ship of their responsibilities.

The company is responsible for obtaining and maintaining all the certificates and documents necessary to operate the ship, in accordance with relevant mandatory rules and regulations, or other applicable codes, guidelines and standards, national and international.

There is a link between the ISM Code certification and statutory surveys, which should be carefully considered, although they have different purposes.

One of the objectives of the ISM Code certification is to ensure compliance with mandatory rules and regulations related to the safe operation of ships and protection of the environment and effective enforcement by Administrations.

The effectiveness of the SMS in ensuring compliance with mandatory requirements is one of the most important criteria used by the auditor when assessing whether the SMS established by the company complies with the ISM Code. The auditor should expect to see procedures and instructions defining the processes which ensure compliance with mandatory requirements. The Administration should provide auditors with relevant qualifications.

The auditor should therefore be able to understand the authenticity and veracity of the information presented in statutory certificates and relevant records. This is not possible if the auditor has no experience in ship operations and relevant statutory

requirements. ISM Code audits should be performed by persons who have obtained all the required qualification and training. These qualifications and requirements of personnel performing ISM Code audits are described in Chapter 3.

2.4 Comparison of the ISM Code, ISO 9002, DNV Rules and ISMA Code

There are many different quality standards for how to set up a Safety Management System, such as:

i) ISM Code. IMO's safety management standards that form part of the latest review of the SOLAS Convention (Chapter IX).

ii) ISO 9002 (Quality Systems - Model for quality assurance in production installation and servicing) quality standard, part of ISO 9000 series that is being followed by numerous manufacturing and service companies worldwide.

iii) DNV rules (Management of Safe Ship Operation and Pollution Prevention) standard focused on safety and environmental protection measures.

iv) ISMA Code (International Ship Managers Association) which is a comprehensive Code of Shipmanagement Standards (encompassing the principles of ISO 9002 and the ISM Code).

The issuance of the DOC and / or SMC to a company and / or a ship, will follow the verification that their SMS fully complies with the requirements of the ISM Code .

The management system in the ISM Code has specifically been developed for this purpose (safety and pollution prevention). There are other standards that the company might implement, such as ISO, ISMA or DNV Rules (which are voluntary).

This does not mean that a company should implement two separate systems. Non mandatory aspects may be part of the audit but will not affect conformity or nonconformity against the ISM Code and relevance of DOC or SMC.

Verification that the system is in compliance with the specific company's objectives, including other management standards, might be part of a voluntary certification scheme, in which any findings give an opportunity to the company to improve its management system beyond the mandatory requirements of the ISM Code.

A comparison of the different standards shows that certain requirements are common to all. These include the system maintenance disciplines, such as document control, internal auditing and management review, together with other common principles, such as the need for clearly defined management responsibilities, authorities and interrelations. Each standard also specifically addresses the subject of training and core activities.

Regarding the comparison between ISO 9002 and ISM Code the main differences are, firstly, that the ISM Code will be a mandatory requirement from July 1998 and the implementation of the ISO 9002 is voluntary. Secondly, the ISM Code was specifically designed for the shipping sector, standardizing safety management of ships. The ISO 9002 is the most widely recognized quality management standard throughout the world with no specific requirements for any particular branch of business. In other words, ISO 9000 series is far less specific than the ISM Code, leaving to each individual company to design their own standards.

In table 4 the standards related to with the maritime sector are compared:

QUALITY STANDARDS COMPARED				
PROCEDURE	ISM CODE	ISO 9002	DNV RULES	ISMA CODE
Management Responsibility And Authority	•	•	•	•
Quality Management System	•	•	•	•
Contract Review	•	•		•
Design Control				
Document and Data Control	•	•	•	•
Purchasing		•		•
Customer Supplied Product		•		•
Identification and Trace	•	•		•
Process Control (Core Activities)	•	•		•
Safety Management System	•	•	•	•
Contingency Plans and Environment Protection	•	•	•	•
Vessel Certification and Trading Readiness	•	•	•	•
Maintenance and Repair/Dry Docking	•	•	•	•
Manning Personnel	•	•	•	•
Communications	•	•		•
Insurance		•		•
Accounting				•
Inspection and Testing of vessels and equipment	•	•		•
Control of Inspection, Measuring and Test Equipment		•		•
Inspection and Test Status	•	•		•
Control of NonConformities	•	•	•	•
Corrective and Preventative Action	•	•	•	•
Handling, Storage, Packing, Preservation and Delivery	•	•		•
Control of quality Records	•	•	•	•
Internal Quality Audits	•	•	•	•
Training	•	•	•	•
Health, Safety and Environmental Policy	•		•	•
Alcohol and Drug Abuse Policy	•		•	•
Marketing Policy				•

Table 4   Source: Ferriby Marine

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2.5 The obligations of Port State and Flag State

2.5.1 Port State

Regarding the implementation of the ISM Code, it is important to keep in mind the parallel resolution A.742(18) "Procedures for the control of Operational Requirements related to the Safety of Ships and Pollution Prevention", which is concerned with Port State control. Its focus is:

i) control of ships by port states on matters related to maritime safety and the prevention of marine pollution;

ii) port state monitoring of foreign ships in their ports not only as to their compliance with applicable maritime safety and pollution prevention standards, but also an assessment of the ability of ships' crews with respect to operational requirements relevant to their duties particularly with regard to passenger ships and ships which may present a special hazard; and

iii) when there are clear grounds for believing the ship's officers and crew are not familiar with essential shipboard procedures, the Port State Control should be extended to include operational requirements in respect to the safety of ships and of pollution prevention.

In order to provide a legal basis for Port State Control of operational requirements, amendments have been developed for SOLAS 74 and MARPOL 73/78.

If, in fulfilling their control obligations, Port State authorities carrying out inspections on foreign ships in their ports find the absence of valid certificates or documents, or if there are clear ground for believing that the condition of a ship or its

equipment, or its crew, does not substantially meet the requirements of a relevant instrument, a more detailed inspection may be carried out.

'Clear grounds' for the application of relevant operation procedures is defined as:

i) evidence of operational short comings revealed during port state control procedures in accordance with SOLAS, MARPOL and STCW;

ii) evidence of cargo and other operations not being conducted safely or in accordance with IMO guidelines;

iii) involvement of the ship in incidents due to failure to comply with operational requirements;

iv) evidence, from observation of a fire and abandon ship drill that the crew is not familiar with essential procedures;

v) absence of an up to date muster list; and

vi) indications that key crew members may not be able to communicate with each other or with other persons on board.

In addition, other pertinent excerpts from Resolution A.742(18) include:

i) when exercising control of compliance with operational requirements, all possible efforts should be made to avoid a ship being unduly delayed;

ii) if undue detention or delay, ships should be entitled to compensation for any loss or damage; if a dispute arises, the state would have to prove cause for delay;

iii)the control officer should not include any operational tests or impose physical demands which, in the judgment of the master, could jeopardize the safety of the ship, crew, passengers, control cargo; and

iv)it is not envisioned that all·of the procedures would be checked during a single port state control inspection.

2.5.2 Flag State

The Flag States must develop their own national legislation considering the following main aspects which should be included in their requirements:

i) scope of application;

ii) verification and certification;

iii)entry into force, and

iv)the ISM Code itself.

With regard to verification and certification the flag state's legislation must consider audits (initial, periodical and renewal) and the certificates (DOC and SMC), including the requirements for their validity.

The addition of the new chapter IX to the International Convention for the Safety of Life at Sea, SOLAS, 1974 should be considered as basis for the national legislation, which should also be complemented by regulations on the validity of DOC and SMC.   For this legislation the IMO Resolution A.788(19) "Guidelines on

Implementation of the International Safety Management Code by Administrations" is very useful.

It will be beneficial for the companies regarding with the implementation of the Code and the guidelines prepared by the Administration with the main policies and instructions to carry out a successful implementation. The guidelines should consider, inter alia, the following:

- How to apply certification?
- The documents needed when applying.
- How audits will be organized and carried out?
- The structure of the cooperation between the Company and the Administration.

It is recommendable that the guidelines will be developed in cooperation with the maritime sector i.e. shipowners, the maritime industry, shipyards, trade unions, and maritime training institutions.

One of the main obligations of the Flag State is to provide highly qualified personnel to be used in the verification and certification tasks. The auditor's background and qualifications are developed in Chapter 3.

2.6 The role of classification societies

A large number of administrations have delegated fully or partially their statutory work to classification societies. It is to be expected that this will also be the case in regard to the implementation, verification and certification of the ISM Code.

The Administration is always responsible for verifying compliance with the requirements of the ISM Code. Having in mind that resolution A.739(18)

"Guidelines for the Authorization of Recognized Organizations acting on behalf of the Administrations", which was made mandatory by the new SOLAS chapter IX and resolution A.740(18), "Interim Guidelines to assist Flag States" are applicable when Administrations authorize organizations to issue DOC and SMC on their behalf.

Resolution A.739(18) provides guidelines and proposals for delegation of responsibilities in detail. Arrangements for the organization that is acting on behalf of the Administration, among others, include:

- Certification of its quality system by an independent body of auditors
- Maintenance of records
- Internal audits to be carried out
- Responsibilities, authorities and interrelationship to be defined
- Procedures to provide for shoreside and shipboard assessments
- The use of qualified professional staff for shore based and onboard ship assessments
- A system for qualification of surveyors and for the continuous updating of their knowledge

Even if an Administration decides to delegate in full all work concerning the ISM Code, the necessary national legislation must be developed and adopted and some guidance must be given by the Administration to the societies and to companies (described in paragraph 2.5.2). Furthermore, some control mechanism has to be developed in order for the Administration to be able to monitor the work that is being carried out on their behalf.

Nowadays many shipping companies are already requesting IACS (International Association of Classification Societies) members to perform ISM Code certification

services, in this voluntary phase before the mandatory implementation of the ISM Code under SOLAS Chapter IX.

The continuity from the voluntary to mandatory phase of implementation of the ISM Code, through the recognition of IACS member societies by administrations, is very important, in particular for companies managing ships with different flags, which could have problems due to the involvement of different flag administrations in the ISM Code certification process.

The IACS member societies have developed Guidelines for ISM Code certification and an IACS model course for the training and qualification of ISM Code auditors. These initiatives show the capability of IACS members societies to comply with the requirements of the ISM Code certification acting on behalf of the Administration.

2.7 Organization of shipping companies

Shipping companies and shipboard organizations have traditionally hierarchical features. Within the human related organizations or the variety of it, the socio-technical organization, management tools as standardized quality management and safety management with use of the ISM Code place very well.

Persons on different levels in the organization or performing different functions obtain a tool which enables them to interact and realize themselves in the job in order to achieve a common formulated and accepted goal.

The search for a shipboard organization model which satisfies those criteria on management is a natural step in the development. The socio-technical definition offers furthermore a good ground for the explanation of the relations between man and technical systems, for instance on board a ship.

Many shipping companies have chosen the flat organization in order to respond, inter alia, to the need of flexibility to meet the market situation. Changing owner structures in the shipping world have however given different probabilities for a consistent and efficient implementation of the ISM Code. Very often the ownership is placed in one company, the operations in a second and the manning function in a third.

It is essential for the auditor to know the principal variations of maritime organization patterns to understand in a correct way the shore based organization and the implications in a ship based organization. These are mainly the following :

- A company transports its own goods. The ship belongs to the distribution line of an enterprise.
- Traditional shipping operations, all functions placed in one company.
- The company takes care of ownership, manning and technical management. Operations placed outside the company.
- The company has left out operations and with manning and technical management placed in and independent management company.
- The company has its own operation but manning and technical management on and independent management company.

CHAPTER 3

QUALIFICATION OF PERSONNEL PERFORMING ISM CODE AUDITS

3.1 Introduction

"Auditing the Auditor" in its most direct context must be carried out internally by the organization performing the certification (Administration or classification society acting on behalf of the Administration).

The overall goal must be to ensure that adequate standards of auditing are to be maintained. There are of course different means of achieving this objective. First, standards for auditing must exist, as well as the requirements covering the competence auditors. The methods used for selection, education training and assessment have to be defined as well as how an auditor's performance is to be monitored and when refresher courses are required.

The Safety Management System certification process carried out by Administrations or other organization acting on behalf of the Administration will require a systematic training and qualifications regime for personnel (auditors) engaged in this process, as

well as, adequate knowledge in the technical and operational aspects of maritime management activities.

This chapter has been developed to define the minimum standards of competence and qualification of personnel carrying out the ISM Code certification process. These standards should be the same for Flag State auditors as for personnel belonging to any organization recognized and authorized to carry out the audit.

Management of ISM Code certification schemes should be carried out by those who have practical knowledge of ISM Code certification procedures and practices.

3.2 Standards of competence

The ISO 10011 series on auditing standards contains generic standards covering auditing, qualification of auditors and the management of audit schemes. They are all applicable to ISM Code auditing, except for some minor terminology changes that have found their way into the shipping industry. The ISO 10011 standards are totally different from ISO 9000 series of quality system standards, that also have been used in shipping. The ISO 9000 series, of which ISO 9002 is the best known, contains requirements and guidelines for the management systems that the Company has to develop and implement in order to qualify for certification. The ISO 10011 series contains requirements and guidelines with which the organization performing the certification should comply. It is important to realize that a number of new methodologies are being implemented now. A meaningful understanding of the phrase "Auditing the Auditor" can not be made without considering the international standards for auditing.

Parts of the ISO 10011 Standards Series (the International Standards on Auditing),

which are related to the steps involved in auditing, were fully included into the IMO Guidelines for Administrations for Implementation of the ISM Code. The principles for qualification of ISM Code auditors are basically the same as in ISO 10011. These principles state the competence needed to fulfill the very specific maritime work experience and knowledge that is essential to verify whether the SMS for a Company or for a ship fulfills the requirements of the ISM Code.

3.2.1 Education

Personnel who are to participate in the verification of compliance with the requirements of the ISM Code should have a minimum of formal education according to the following:

i) qualifications from a tertiary institution recognized by the Administration or by the recognized organization within a relevant field of engineering or physical science (minimum two years program), or

ii) qualifications from a marine or nautical institution and relevant sea-going experience as certified ship officer.

3.2.2 Work experience

Personnel performing verification of compliance with the requirements of the ISM Code must have at least five years experience in areas relevant to technical or operational aspects of safety management, such as

i) ship's classification or statutory surveys; or

ii) experience as a certified watch keeping officer; or

iii) experience as a superintendent/ship manager,

or a combination of the three could be acceptable considering in total five years of experience.

3.2.3 Theoretical training

The personnel should have undergone training to ensure adequate competence and skills for performing verification of compliance with the requirements of the ISM Code, according to ISO 10011-1, particularly with regard to:

i) knowledge and understanding of the ISM Code;

ii) mandatory rules and regulations;

iii) the terms of reference which the ISM Code requires that companies should take into account;

iv) assessment techniques of examining, questioning, evaluating and reporting;

v) technical or operational aspects of safety management;

vi) basic knowledge of shipping and shipboard operations; and

vii) participation in at least one marine related management system audit.

Such competence should be demonstrated through written or oral examinations, or other acceptable means established by the Administration.

IMO Resolutions state requirements for personnel who are to perform ISM Code audits, as well as requirements for the organizations who are to issue Documents of Compliance and Safety Management Certificates on behalf of Administrations. These requirements are the same when the certification process is carried out by the Administration itself.

These topics should be known by the auditors performing ISM Code certification. Moreover these should be included in the refresher courses for the continuous improvement of the auditor, considering that the ISM Code standards are international and worldwide implemented.

3.2.4 Personal attributes

Auditor candidates should be open-minded and mature; possess sound judgment, analytical skills and tenacity; have the ability to perceive situations in a realistic way to understand complex operations from a broad perspective, and to understand the role of individual units within the overall organization, ashore in the Company and onboard of the ships.

The auditor should be able to apply these attributes in order to:

i) obtain and assess objective evidence fairly;

ii) remain true to the purpose of the audit without fear or favor;

iii) evaluate constantly the effects of audit observation and personal interactions during an audit;

iv) treat the personnel concerned in a way that will best achieve the audit purpose;

v) react with sensitivity to the international conventions ratified and national law of the country in which the audit is performed;

vi) perform the audit process without deviating due to distractions;

vii) commit full attention and support to the audit process;

viii) react effectively in stressful situations;

ix) arrive at generally acceptable conclusions based on audit observations; and

x) remain true to a conclusion despite pressure to change that is not based on evidence.

3.2.5 Competence for ISM Code verification

Personnel performing ISM Code verification process must have acquired, as a minimum, the competence and audit experience indicated below, the Administration or the organization acting on behalf, should have a record with their auditor's assignments.

3.2.5.1 Initial and renewal verification

Personnel performing initial or renewal verification must have the competence required to fully assess whether the Company or the ship complies with the requirements of the ISM Code, i.e.:

i) to determine the conformities and nonconformities of SMS elements with the requirements of the ISM Code;

ii) to determine the effectiveness of the company SMS, or the ship, to ensure compliance with rules and regulations as evidenced by statutory and classification records;

iii)to assess the effectiveness of the SMS in ensuring compliance with the rules and regulations which are not covered by statutory and classification surveys and facilitating verification of compliance with these rules and regulations; and

iv)to assess whether the safe practices recommended by the IMO, Administrations, classification societies and maritime industry organizations have been taken into account.

Personnel who are to be in charge of initial verification or renewal verification of compliance with the requirements of the ISM Code should have at least five years experience in areas relevant to the technical or operational aspects of safety management; and have participated in at least three initial verifications or renewal verifications. Participation in verification of compliance with other management standards may be considered as equivalent to participation of compliance with the ISM Code.

3.2.5.2 Periodical, intermediate and interim verification

Personnel performing periodical, intermediate or interim verification must have the competence to evaluate compliance with the requirements of the ISM Code by determining, inter alia:

i) the effective functioning of the Company SMS or the shipboard SMS,

ii) continuing compliance of the Company or the ship with relevant rules and

regulations, e.g. as evidenced by statutory and classification records, ·

iii)continuing compliance of the Company or the ship with other rules and regulations not subject to survey for maintaining the validity of the other Convention certificates.

Personnel who are to perform periodical, intermediate and interim verifications should satisfy basic requirements for personnel participating in verifications and should have participated in a minimum of two periodicals, renewal or initial verifications. They should have received special instructions needed to ensure that they posses the competence required to determine the effectiveness of the Company's SMS.

3.3 Qualification Arrangements

Administrations and others organizations recognized by the Administration performing ISM Code certification should have implemented a documented system for qualification and continuos updating of the knowledge and competence of personnel who are to perform verification of compliance with the ISM Code. This system should comprise theoretical training, courses covering all the competence requirements and the appropriate procedures connected to the certification process, as well as practical tutored training, and it should provide documented evidence of satisfactory completion of the training.

The International Association of Classification Societies (IACS) has developed a model course for training ISM Code auditors. The objective of this course is to facilitate the training of IACS Member Societies' personnel who have the responsibility for assessing compliance with requirements of the ISM Code.

The IACS Model Course has the following framework: ·

i) The criteria for auditing quality systems;

ii) the background under which the ISM Code was developed and adopted by the IMO, including its schedule of mandatory implementation under SOLAS Chapter IX, and the different requirements of the Code;

iii) the general objectives of mandatory rules and regulations, and other applicable codes, guidelines and standards recommended by the IMO, Administrations, classification societies and maritime industry organizations;

iv) the general principles of safe routine shipboard operations, including emergency preparedness and response; and

v) the procedures for performing the verification of compliance with the requirements of the ISM Code.

For this purpose, the IACS Model Course has been subdivided into the following five modules:

Module I	Basic knowledge of quality management system criteria.
Module II	Knowledge and understanding of the ISM Code.
Module III	Outline of mandatory rules, regulations and applicable codes, guidelines and standards.
Module IV	Basic knowledge of shipping and shipboard operations, including technical and operational aspects of marine safety management.
Module V	Procedures and instructions for planning and performing verification of compliance with the ISM Code.

3.4 Auditor's examination

The Administration or the organization acting on his behalf must ensure that the auditors performing the ISM Code certification have the knowledge and professional experience required for carrying out this process.

"Auditing the Auditor", is one of the most important tasks of the organizations in the ISM Code implementation process. In this context, the final objective is the standard application of the Code by any Flag State or classification society.

The organizations should ensure the maintenance of competence of their auditors by:

i) ensuring that their knowledge of quality systems standards and requirements is current;

ii) ensuring that their knowledge of auditing procedures and methods is current;

iii) ensuring their participation in refresher training when necessary;

iv) checking their performance at least every three years (see paragraph 3.2 of this chapter)

CHAPTER 4

AUDIT PROCESS

"We sometimes forget that regulations can only be effective if they are properly implemented. And this can only be done by skilled people."

William O'neil, Secretary-General of IMO.

4.1 Introduction

Quality audit is a systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives (ISO 8402).

4.2 Audit objectives

Audits, in general, are designed for one or more of the following purposes:

i) to determine the conformity or nonconformity of the quality system elements with specified requirements;

ii) to determine the effectiveness of the implemented quality system in meeting specified quality objectives;

iii) to provided the auditee with an opportunity to improve the quality system;

iv) to meet regulatory requirements;

v) to permit the listing of the audited organization's quality system in a register.

4.3 Roles and responsibilities pertaining to audits

Every modern regulation is only effective when the enforcement mechanism is efficient. The task of ISM Code enforcement is assumed by flag state administrations of the ratifying members states of IMO. The standards of audit must be applied globally, increasing the safety in ships and protection of the marine environment around the world.

4.3.1 Responsibilities of the Administration

The Administration performing the ISM Code certification is responsible for ensuring that the certification process is performed according to the ISM Code and the corresponding guidelines. This includes management control of all aspects of the certification process, described in section 4.4 of this chapter.

This responsibility is also applicable in the case another organization is authorized to perform the ISM Code certification acting on behalf of the Administration.

4.3.2 Responsibilities of the Company

i) The verification of compliance with the requirements of the ISM Code does not relieve the Company, management, officers or seafarers of their obligation to comply with national and international legislation related to safety and protection of the environment.

ii) The Company is responsible for:

- informing relevant employees about the objectives and scope of the Audit;

- appointing responsible members of staff to accompany Auditor(s);

- providing the resources needed by Auditor(s) to ensure an effective and efficient verification process;

- providing access and objective evidence as requested by Auditor(s); and

- cooperating with Auditor(s) to permit the audit objectives being achieved.

4.3.3 Responsibilities of Auditor(s)

i) The auditor is responsible for:

- planning and carrying out assigned responsibilities by the team leader effectively and efficiently;

- complying with the applicable requirements and other appropriate directives;

- reporting to the team leader any major obstacles encountered in performing the Audit;

- organizing specialist technical assistance required to fulfill the competence requirements of the Audit as and when appropriate;

- communicating and clarifying the nonconformities to the Company and/or the ship immediately;

- communicating any observations;

- reporting the Audit results clearly, conclusively and without undue delay;

- submitting the Audit Report to the Company and/or the ship when acting as sole Auditor; and

- verifying the effectiveness of corrective actions taken by the Company as a result of the Audit.

ii) Personnel participating must ensure confidentiality of documents pertaining to the certification and treating privileged information with discretion.

4.3.4 Responsibilities of the lead auditor

The lead auditor is ultimately responsible for all phases of the audit. The lead auditor should have management capabilities and experience and should be given authority to make final decisions regarding the conduct of the audit and any audit observations. The lead auditor's responsibilities also cover:

i) assisting with the selection of other audit team members;

ii) preparation of the audit plan;

iii) representing the audit team with the auditee's management;

iv) submitting the audit report to the Company and/or the ship.

v) submitting the audit report to the Administration.

4.4 Audit main points

4.4.1 Types of Audits

There are various types of Audits.

i) Internal Audit: is as the name indicates an audit carried out by internal independent and authorized persons within the same Company with the aim to verify adherence to company standard. An audit is always a planned activity —

not an ad hoc check. The internal audit can deal with a part of the Company organization for example a department or a ship in the company fleet.

ii) <u>External Audit</u>: is an audit carried out by an outside body, for example the Administration or a classification society according to the ISM Code.

Audits vary in depth. It is possible to group them in 3 levels.

<u>Level 1</u>: This is a so called 'System Audit' during which documentation in form of company and onboard manuals are checked and that these manuals cover all items in the chosen standard, in this case, ISM Code standards. The key personnel should be aware of the content. Interviews with for example Master, Chief officer, Chief Engineer and 2nd Engineer should be carried out. The use of such an audit is limited.

<u>Level 2</u>: This is an 'Implementation Audit' with the aim to verify that the company management system is in use. This means that what is laid down in the company manuals really happens onboard. During such an implementation audit the key personnel are interviewed more extensively than in the level 1 audit. Evidence in form of records is asked for.

<u>Level 3</u>: This is what is called a 'Product Audit' or a 'Vertical Audit', and during this audit the majority of the personnel onboard are interviewed in detail not only with the aim of verifying adherence to rules, standards and manuals but also with the aim of monitoring improvement processes and possibilities for loss reduction. The time needed for level 3 is naturally considerably longer than for level 1 and 2.

4.4.2 Preparing the Audit

The audit plan should be approved by the company and communicated to the auditors and auditee.

The audit plan should be designed to be flexible to permit changes in emphasis based on information gathered during the audit, and to permit effective use of resources. The plan should include:

i) the audit objectives and scope;

ii) identification of the responsible person and individuals having significant direct responsibilities regarding the objectives and scope;

iii) identification of reference documents;

iv) identification of audit team members;

v) the date and place where the audit is to be conducted;

vi) identification of the organizational units to be audited (ships, branch offices, etc.)

vii) the expected time and duration for each audit activity;

viii) the schedule of meetings to be held with auditee management;

ix) confidentiality requirements; and

x) audit report distribution and the expected date of issue.

If the auditee objects to any provisions in the audit plan, such objections should immediately be made known to the lead auditor. They should be resolved between the lead auditor and the auditee and, if necessary, the company before executing the audit.

Specific details of the audit plan should only be communicated throughout the audit if their premature disclosure does not compromise the collecting of objective evidence.

The audit team should have in consideration the following aspects that will help to understand the perspective of the company in relationship with the quality system:

i) the climate within which a company operates (regulatory, economic, know-how),

ii) the company organization and standards,

iii) the control, communications and coordination process,

iv) monitoring of and feedback on the effectiveness of management control, and

v) front line personnel competence and task support (interface, tools, procedures, etc.)

4.4.3 Executing the audit

4.4.3.1 Opening meeting

The purpose of an opening meeting is to:

i) introduce the members of the audit team to the auditee's senior management;

ii) review the scope and the objectives of the audit;

iii) provide a short summary of the methods and procedures to be used to conduct the audit;

iv) establish the official communication links between the audit team and the auditee;

v) confirm that the resources and facilities needed by the audit team are available;

vi) confirm the time and date for the closing meeting and any interim meetings of the audit team and the auditee's senior management; and

vii) clarify any unclear details of the audit plan.

4.4.3.2 Collecting evidence

Evidence should be collected through interviews, examination of documents, and observation of activities and conditions in the areas of concern. Clues suggesting nonconformities should be noted if they seem significant, even though not covered by check-lists, and should be investigated. Information gathered through interviews should be tested by acquiring the same information from other independent sources, such as physical observation, measurements, records and log books.

During the audit, the lead auditor may make changes to the auditor's work assignments, and to the audit plan with the Company's approval and the auditee's agreement, if this is necessary to ensure the optimal achievement of the audit objectives.

If the audit objectives appear to become unattainable, the lead auditor should report the reasons to the Company, the auditee and to the Administration.

4.4.3.3 Audit observations

All audit observations should be documented. After all activities have been audited, the audit team should review all of their observations to determine which are to be reported as nonconformities. The audit team should then ensure that these are documented in a clear, concise manner and are supported by evidence. Nonconformities should be identified in terms of the specific requirements of the ISM Code or other related documents against which the audit has been conducted. Observations should be reviewed by the lead auditor with the 'designated person(s)'. All observations of nonconformities should be acknowledged by the auditee management.

4.4.3.4 Closing meeting

i) At the end of the audit, before preparing the audit report, the audit team should hold a meeting with the auditee's senior management and those responsible for the functions concerned. The main purpose of this meeting is to present audit observations to the senior management in such a manner to ensure that they clearly understand the results of the audit.

ii) The lead auditor should present observations, taking into account their perceived significance.

iii) The lead auditor should present the audit's team conclusions regarding the quality system's effectiveness in ensuring that quality objectives will be met.

iv) Records of the closing meeting should be kept and presented to the Administration.

4.4.4 The Certification Process

4.4.4.1 Certification activities

The certification process relevant for the issuance of a DOC for a company and an SMC to a ship will normally involve the following steps:

i) initial verification

ii) periodical verification

iii) renewal verification

These verifications are carried out at the request of the company to the Administration, or to the organization recognized by the Administration to perform certification functions under the ISM Code.

The verifications will include an audit of the Safety Management System.

4.4.4.2 Initial verification

i) The company should apply for ISM Code certification to an Administration under which it has registered, or intend to register its vessel. The Company should submit request for certification to the Administration or to the organization it has recognized for ISM Code certification before the ISM Code becomes mandatory for that Company.

ii) An assessment of the shore side management system undertaken by the Administration would make necessary assessment of the offices where such

management is carried out and possible other locations depending on the Company's organization and functions of the various locations.

iii) On satisfactory completion of the assessment of the shore side SMS, arrangements/planning may begin for the assessment of the Company's ships.

iv) On satisfactory completion of the assessment, a DOC will be issued to the Company, copies of which should be forwarded to all shore side premises and all the ships in the Company's fleet. As each ship is assessed and issued with an SMC, a copy of it should also be forwarded to the Company's head office.

v) In cases where certificates are issued by a recognized organization, copies of all certificates should also be sent to the Administration.

vi) The safety management audit for the Company and for a ship will involve the same basic steps. The purpose is to verify that a Company or a ship complies with the requirements of the ISM Code. The audits include:

- the conformity of the Company's SMS with the requirements of the ISM Code; and
- that the SMS ensures that the objectives defined in section 1.2.3 of the ISM Code are met.

4.4.4.3 Periodical verification of Document of Compliance

i) Periodical Safety Management Audits are to be carried out to maintain the validity of the DOC. The purpose of these audits is to verify the effective functioning of the SMS, and that any modifications made by the SMS comply with the requirements of the ISM Code.

ii) Periodical verification is to be carried out within three months before and after each anniversary date of DOC. A schedule not exceeding three months is to be agreed for completion of the necessary corrective actions.

iii) Where the Company has more than one shore side premises, each of which may not have been visited at the initial assessment, the periodical assessments should endeavor to ensure that all sites are visited during the period of validity of the DOC.

4.4.4.4 Intermediate verification of Safety Management System

i) Intermediate safety management audits should be carried out to maintain the validity of the SMC. The purpose of these audits is to verify the effective functioning of the SMS and that any modifications made to the SMS comply with the requirements of the ISM Code.

ii) If only one intermediate verification is to be carried out, it should take place between the second and third anniversary date of the issue of the SMC.

4.4.4.5 Renewal verification

i) Renewal verifications are to be performed before the validity of the DOC or the SMC expires. The renewal verification will address all the elements of the SMS and the activities to which the requirements of the ISM Code apply. Renewal verification may be carried out from six months before the expiry date of the DOC or the SMC and should be completed before their expiry date.

4.4.4.6 Safety management audit

i) The procedure for safety management audits outlined in the following paragraphs include all steps relevant for initial verification. Safety management audits for periodical verification and renewal verification should be based on the same principles even if their scope may be different.

4.4.4.7 Application for audit

i) The Company should submit a request for audit to the Administration or to the organization recognized by the Administration for issuing DOC or SMC on behalf of the Administration.

ii) The Administration or recognized organization should then nominate the lead auditor and, if relevant, the audit team.

4.4.4.8 Preliminary review

i) As a basis for planning the audit, the auditor should review the safety management manual to determine the adequacy of the SMS in meeting requirements of the ISM Code. If this review reveals that the system is not adequate, the audit will have to be delayed until the Company undertakes corrective action.

4.4.4.9 Preparing the audit

i) The nominated lead auditor should liaise with the Company and produce an audit plan.

ii) The auditor should provide the working documents which are to govern the execution of the audit to facilitate the assessments, investigations and

examinations according to the standard procedures, instructions and forms which have been established to ensure consistent auditing practices.

iii) The audit team should be able to communicate effectively with the auditees.

4.4.4.10 Executing the audit

i) The audit should start with an opening meeting to introduce the audit team to the Company's senior management, summarize the methods for conducting the audit, confirm that all agreed facilities are available, confirm time and date for a closing meeting and clarify possible unclear details relevant to the audit.

ii) The audit team should assess the SMS on the basis of the documentation presented by the Company and objective evidence as to its effective implementation.

iii) Evidence should be collected through interviews and examination of documents. Observation of activities and conditions may also be included when necessary to determine the effectiveness of the SMS in meeting the specific standards of safety and protection of the environment required by the ISM Code.

iv) Audit observations should be documented. After activities have been audited, the audit team should review their observations to determine which are to be reported as nonconformities. Nonconformities should be reported in terms of the general and specific provisions of the ISM Code.

v) At the end of the audit, before preparing the audit report, the audit team should hold a meeting with the senior management of the Company and those responsible for the functions concerned. The purpose is to present the observations to ensure that the results of the audit are clearly understood.

4.4.4.11 Audit report

i) The audit report should be prepared under the direction of the lead auditor, who is responsible for its accuracy and completeness.

ii) The audit report should include the audit plan, the identification of the audit team members, dates and identification of the Company, observations on any nonconformity and observations on the effectiveness of the SMS in meeting the specified objectives.

iii) The Company should receive a copy of the Audit Report. The Company should be advised to provide a copy of the shipboard audit reports to the ship.

4.4.4.12 Corrective action follow-up

i) The Company is responsible for determining and initiating the corrective action needed to correct a nonconformity or to correct the cause of the nonconformity. Failure to correct nonconformities with specific requirements of the ISM Code may affect the validity of the DOC and related SMC.

ii) Corrective and possible subsequent follow-up audits should be completed within the time agreed. The Company should apply for the follow-up audits.

4.4.4.13 Forms of DOC and SMC

i) The DOC, SMC and Interim DOC and Interim SMC should be drawn up in the form corresponding to the models given in appendices 2 to 5. If the language used is neither English nor French, the text should include a translation into one of these languages.

4.5 Guidelines for auditing ISM Code

4.5.1 Working documents

The documents required to facilitate the auditor's job, and to document and reports results, may include:

i) ISM Code (IMO publication);

ii) check-lists used for evaluating quality system elements;

iii) forms for reporting audit observations; and

iv) forms for documenting supporting evidence for conclusions reached by the auditors.

Working documents should be designed so that they do not restrict additional audit activities which may become necessary as a result of information gathered during the audit.

Working documents involving confidential or proprietary information must be suitably safeguarded by the Administration.

4.5.2 Development of plans for shipboard operations

Regarding the ISM Code article 7, the Company should establish procedures for preparation of plans and instructions for key shipboard operations associated with safety and pollution prevention.

The following list provides a suggested subject matter for the operations documentation:

(a) <u>General</u>

    i)   Shipboard organization

    ii)   Functional responsibilities

    iii)   Reporting procedures

    iv)   Passenger control, when applicable

    v)   Communications between ships and owners (company)

    vi)   Inspections by masters and senior officers

    vii)   Provision and maintenance of documents and records

    viii) Medical arrangements

    ix)   Fitness for duty and avoidance of excessive fatigue

    x)   Operational and maintenance instructions for equipment, unless provided separately

    xi)   Alcohol and drugs policies

    xii)   Checklists for seaworthiness and cargo worthiness

(b) The ship in port

    i)   Accepting cargo and passengers

    ii)   Locating and discharging procedures, including those related to dangerous goods

    iii)   Harbor watches and patrols

    iv)   Liaison with shore authorities

    v)   Monitoring trim and stability

    vi)   Procedures when the ship is temporarily immobilized

    vii)   Procedures for repairs

    viii)   Accidental spillage of liquid cargoes and ship's bunkers

    ix)   Use of reception facilities for oil, noxious liquids and garbage

    x)   Response to oil pollution incidents

(c) Preparing for sea

    i)   Verification of crew or passenger, when applicable

    ii)   Checking and recording draughts

    iii)   Checking stability condition

iv)   Reviewing weather forecast

v)   Securing cargo, hatches and all openings in the hull

vi)   Tests of engines, steering gear, navigation and communications equipment

vii)   Harbor stations

viii) Documentation of sailing condition

ix)   Verification of pollution prevention equipment and arrangements

x)   Verification that up to date nautical charts and publications are carried

(d)   <u>The ship at sea</u>

i)   Bridge and engine room watch keeping arrangements

ii)   Special requirements in bad weather and fog

iii)   Radio-communications, including use of VHF

iv)   Maneuvering data, unless provided separately

v)   Emergency procedures other than those covered separately

vi)   Security patrols, fire patrols and other arrangements for surveillance

vii)   Discharging into the sea of oily water from machinery space bilge, cargo
       residues from oil tankers, noxious liquid substances and garbage

viii) Use of inert gas system, where appropriate

(e) <u>Preparing for arrival in port</u>

    i) Gear tests: steering, main engine, navigation and communication equipment

    ii) Harbor stations

    iii) Port information

    iv) Pilotage requirements

    v) Weather assessment

    vi) Consult publications: tide table, coast pilot and charts

    vii) Helicopter operations

    viii) Ballast and stability

4.5.3 Scheme of a typical ISM Code shipboard audit

The following is a brief account of a typical ISM Code shipboard audit. The audit being to confirm the reality on board is the same as the documented system.
The audit team normally consists of two auditors, one of whom should be nominated lead auditor.

i) The audit schedule is agreed with the Master taking into account the workload and watchkeeping routines. (It is important to create as little disruption to the ship as is possible without detracting from the purpose of the audit).

ii) An opening meeting is held to introduce the auditor(s) and to outline the terms of reference for the audit. Master and Senior Officers will be expected to attend.

/iii) A brief tour of the vessel is made to gain an overall impression of the safety awareness of the crew, housekeeping standards and general maintenance. The team usually splits into two, one auditor concentrating on bridge and deck activities, whilst the other should concentrate on the engine room and electro-technical department.

iv) A series of interviews follows during which the auditor is looking for evidence that all personnel are familiar with company policies, their job responsibilities and relevant sections of the company's documented system. Specific procedures may be examined and followed through to ensure compliance with established procedures.

The Master and Senior Officers as those who have the most influence on the implementation of the Shipboard Management System, are required to prove that the system is effectively implemented on board and the requirements of the Code are being met.

Each element of the Code will be looked at with particular emphasis on those elements which are considered dynamic.

v) A typical audit lasts 16 to 20 hours.

vi) During the audit the auditor establishes if there is any nonconformity with the Code and gather objective evidence to support such nonconformity.

vii) Nonconformity is agreed with the Master and presented at a formal closing meeting. Nonconformity is assigned a specific time for correction. Corrective actions must be in place and verified as such within the agreed time.

viii) The following list is typical of interview lengths conducted during an and audit:

• Master	2 hours
• Chief Engineer	1,5 hours
• Chief officer	1 hour
• 2nd Engineer	1 hour
• Other officers	30 minutes each
• Crew members	15 minutes each

A very important point that should be emphasized is that the audit is of the 'System' not of individuals, but it is only by interviewing individuals the auditor is able to establish the real situation.

ix) The objectives of each auditor are broadly similar, starting with the relevant departmental documentation and followed by the suggested steps:

- Copies of the Company's SMS Manual, Master's Standing Orders and Chief Engineer Officer's Standing Orders should be available at the relevant locations and have to be signed as having been read and understood by the incumbent officers and crew.

- Ship's certificates should be checked for validity as well as officers certificates of competence.

- Pre-sailing routines should be checked for conformance with relevant checklists at the appropriate time.

- Watchkeeping routines, once at sea, should be observed in order to assess their degree of conformance with the guidelines laid down in the relevant Head of Department's Standing Orders.

- Machinery and Safety Equipment Planned Maintenance systems should be checked for effectiveness. Classification Society records can be helpful for outstanding Conditions of Class and overdue surveys.

- The DOC audit should have identified defects reported from the ship, these should be followed-up onboard the ship in order to observe the closing of the reporting loop.

- Emergency Plans and procedures should be examined and evidence sought, through the checking of log book entries, tests and practices.

- The fuel and lubricant oil bunker arrangements should be checked and communications tested, ideally during bunker operation. If this is not possible, a visual examination of the bunker connections and a test of the communications system between bunker station and deck manifold should be carried out.

- The emergency steering arrangement with its attendant communications system should be tested.

- Mooring and unmooring procedures should be witnessed.

- Safety procedures adopted during cargo operations should be witnessed as well car deck management on RO-RO ferries.

- The safety and environmental officers records should be checked, again the closed reporting loop should looked.

- Garbage and oily water / sludge disposal routines should be checked in order to assess the effective implementation of the company's pollution prevent and environmental protection policies.

- A cross section of the ships' company should be randomly selected in order to assess their knowledge of routine and emergency shipboard procedures.

4.5.4 Key requirements to comply the ISM Code

The auditor should request to the ship staff the following key points to guarantee the correct implementation of the ISM Code:

i) The ship staff need to ensure that the vessel is maintained in conformance with Statutory and Class requirements.

Objective evidence of this would be that the vessel does not have any overdue survey items, overdue recommendations from port state control, flag state inspections or class and that a form of planned maintenance is being used and records kept.

ii) The applicable Codes, Guidelines and standards are taken into consideration when operating the vessel. The vessel staff must be able to demonstrate that operations are carried out in a controlled manner using information contained in these Codes, Guidelines and Standards.

iii) The emergency situations have been identified and drills are conducted to ensure the vessel and company are ready to respond to emergency situations.

iv) The Master is expected to be fully conversant with the Company's Safety Management System. Officers and crew are expected to be familiar with the parts of the System which are relevant to their safety responsibilities as well as a through understanding of their operational responsibilities.

v) The ship staff have to provide the relevant documents and records of activities pertaining to the Safety Management System.

Examples, in no special order, of the type of documentation that the auditor may wish to see to verify compliance with the ISM Code are as follows:

- Log books
- Safety and management meeting minutes and follow up actions
- Accident and incident reports and follow up actions
- Medical log
- Company circular letters
- Records of verification
- Records of Master's review of the system
- Records of internal audits and follow up
- Records of charts corrections
- Records of experience feedback
- Class quarterly listings
- Records of passage planning
- Oil record books
- Garbage logs
- Records of working hours
- Company manuals and forms

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

"Good order is the foundation of all goods things"

Edmund Burke, 1791

5.1 Conclusions

The ISM Code will enter into force on 1st July 1998. In this initiative flag state administrations, port states, shipping companies, classification societies, P&I clubs, underwriters and charters all have an important role to play to ensure the success of the ISM Code.

The analysis of the material presented in this investigation has provided the following conclusions:

i) The contribution of the ISM Code facilitates the protection of marine safety and the prevention of pollution, both of which form the corner stone of the company's safety policy.

ii) Documenting and systematizing objectives, policies and procedures to increase safety and ensuring that these policies are followed will reduce losses for the shipping company, and as a consequence, give a total improved performance.

iii) The Code is drafted in broad terms in order to permit a widespread application in different shipboard and shoreside office situations.

iv) The ISM Code should support and encourage the development of a safety culture in the shipping industry, both on ships and in companies. For this purpose the ISM Code has the following objectives:

- Safe practices in ship operation
- Safeguards against identified risks
- Continuous improvement in safety management skills.

v) The code ensures that the shipboard personnel are well prepared for contingencies and emergency preparedness. One of the significant benefits from this should be the reduction in human errors. The system definitely leads to reduction in incidents, such as harm to people, damage to the environment, damage to the ship itself and the cargo, the effect of which may prove very costly to the shipowner. *Implementing the ISM Code is not a cost, it is an investment.*

. vi) A successful implementation of the ISM Code would be one of the key factors for changing the present system of surveys on board by many interested parties, such as flag administrations, port states, classification societies, underwriters,

charters and other industry organizations, who are presently carrying out surveys independently. By adopting one single standard the number of surveys can be decreased in the future.

vii) The fundamental difference between an ISM Code audit and a Quality Management System (QMS) audit (ISO 9000 series) is that in a QMS the standard to which it is audited is set by the auditee. For the ISM Code the standard is set internationally. Another difference between the ISM Code and ISO 9000 is that the ISM Code will be a mandatory requirement, whereas an implementation of ISO 9000 is voluntary. Finally, the ISM Code was specifically designed for the shipping sector. ISO was originally designed for the needs of production-oriented companies and service companies with no specific requirements for any particular branch of business.

viii) In the short term the ISM Code implementation process will produce an increase in the work load for the ships' staff, master, and all company personnel. However, in the long term the successful implementation and correct application of the Safety Management System will provide a well-defined safe work environment.

ix) The Code is aimed at the improvement of safety and, therefore, environmental protection; its ramifications are far reaching - affecting all aspects of ship operations and ship management.

x) Finally, for a total successful implementation the following two requirements have to merge:

1. The owners' conviction that compliance provides an opportunity for improved performance rather than a burden.

2. The underwriters and P&I Clubs take a leading role in rewarding owners who grasp the opportunity on offer and penalize the owners who consider the ISM Code to be an expensive burden.

5.2 Recommendations

The ISM Code implementation depends to a large extent on a proactive approach by all interested parties (flag state administrations, port states, shipping companies, classification societies, P&I clubs, underwriters and charters), who should understand that it is a unique opportunity towards the development of a new safety culture in shipping.

i) The ISM Code becomes mandatory under Chapter IX of SOLAS; however, implementing a Safety Management System will support continuous cost reduction, productivity and quality improvement. These factors have proved essential for organizations to stay in operation. The SMS is a way of managing business processes to ensure complete customer satisfaction at every stage, internally and externally.

ii) *'Get on board early'* will produce benefits in terms of improved efficiency and smoother operation, which are bound to result in a better service to the

customers. A shipping company holding ISM certification is a demonstration to their clients of the quality of the operation and that the company has set out to fulfill its legal responsibilities. In other words, it is a guarantee of confidence for their customers.

iii) Flag State Administrations do not set low requirements and standards of the ISM Code in order to attract tonnage to their registries and avoid that shipowners look for less strict flag requirements. The ISM Code also requires a systematic training and qualification regime for professional personnel engaged in the safety management system certification process (audits), as well as adequate knowledge of the technical and operational aspects of maritime safety management.

iv) Port States have to strictly enforce the standards set in the ISM Code in order to avoid substandard ships.

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APPENDIX 1

VOCABULARY USED IN SAFETY MANAGEMENT SYSTEMS

(a) General terms

i) Process : set of inter-related resources and activities which transform inputs into outputs.

ii) Procedure : specified way to perform an activity.

iii) Product : result of activities or processes.

iv) Service : result generated by activities at the interface between the supplier and the customer and by supplier internal activities to meet the customer needs.

v) Organization : company, corporation, firm, enterprise or institution, or part thereof, whether incorporated or not, public or private, that has its own functions and administration.

vi) Organizational structure : responsibilities, authorities and relationships, arranged in a pattern, through which and organization performs its functions.

vii) Customer : recipient of a product provided by the supplier.

viii) Supplier : organization that provides a product to the customer.

ix) Purchaser : customer in a contractual situation.

x) Contractor : supplier in a contractual situation.

xi) Subcontractor : organization that provides a product to the supplier.

(b) *Terms related to quality*

i) Quality : totality of characteristics of an entity that bear its ability to satisfy stated and implied needs.

ii) Grade : category or rank given to entities having the same functional use but different requirements for quality.

iii) Requirements for quality : expression of the needs or their translation into a set of quantitatively or qualitatively stated requirements for the characteristics of an entity to enable its realization and examination.

iv) Dependability : collective term used to describe the availability performance and its influencing factors: reliability performance, maintainability performance and maintenance-support performance.

v) Compatibility : ability of entities to be used together under specific

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conditions to fulfill relevant requirements.

vi) Safety : state in which the risk of harm or damage is limited to an acceptable level.

vii) Conformity : fulfillment of specified requirements.

viii) nonconformity : non-fulfillment of a specified requirement.

ix) Defect : non-fulfillment of an intended usage requirement or reasonable expectation, including one concerned with safety.

x) Qualification process : process of demonstrating whether an entity is capable of fulfilling specified requirements.

xi) Qualified : status given to an entity when the capability of fulfilling specified requirements has been demonstrated.

xii) Inspection : activity such as measuring, examining, testing or gauging one or more characteristics of an entity and comparing the results with specified requirements in order to establish whether conformity is achieved for each characteristic.

xiii) Validation : confirmation by examination and provision of objective evidence that the particular requirements for a specific intended use are fulfilled.

xiv) Objective   :   information which can be proved true, based on facts
     evidence   obtained through observation, measurement, test or
                   other means.

(c)Terms related to quality systems

i)   Quality policy   :   overall intentions and direction of an organization
                   with regard to quality, as formally expressed by top
                   management.

ii)   Quality   :   all activities of the overall management function that
     management   determine the quality policy, objectives and
                   responsibilities, and implement them by means such as
                   quality planning, quality control, quality assurance and
                   quality improvement within the quality system.

iii) Quality planning :   activities that establish the objectives and
                   requirements for quality and for the application of
                   quality system elements.

iv) Quality control :   operational techniques and activities that are used to
                   fulfill requirements for quality.

v)   Quality   :   all the planned and systematic activities implemented
     assurance   within the quality system, and demonstrated as
                   needed, to provide adequate confidence that an entity
                   will fulfill requirements for quality.

vi) Quality system : organizational structure procedures, processes and resources needed to implement quality management.

vii) Total quality management : management approach of an organization, centered on quality, based on the participation of all its members and aiming at long-term success through customer satisfaction, and benefits to all members of the organization and to society.

viii) Quality improvement : actions taken throughout the organization to increase the effectiveness and efficiency of activities and processes in order to provide added benefits to both the organization and its customers.

ix) Management review : formal evaluation by top management of the status and adequacy of the quality system in relation to quality policy and objectives.

x) Design review : documented, comprehensive and systematic examination of a design to evaluate its capability to fulfill the requirements for quality, identify problems, if any, and propose the development of solutions.

xi) Quality manual : document stating the quality policy and describing the quality system of an organization.

xii) Quality plan : document setting out the specific quality practices, resources and sequence of activities relevant to a particular product, project or contract.

xiii)	Specification	:	document stating requirements.
xiv)	Record	:	document which furnishes objective evidence of activities performed or results achieved.
xv)	Traceability	:	ability to trace the history, application or location of an entity by means of recorded identifications.

(d) Terms related to tools and techniques

i)	Quality losses	:	losses caused by not realizing the potential of resources in processes and activities.
ii)	Quality evaluation	:	systematic examination of the extent to which an entity is capable of fulfilling specified requirements.
iii)	Quality surveillance	:	continual monitoring and verification of the status of an entity and analysis of records to ensure that specified requirements are being fulfilled.
iv)	Quality audit	:	systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.

v)	Quality audit observation	:	statement of fact made during a quality audit and substantiated by objective evidence.
vi)	Quality auditor	:	person qualified to perform quality audits.
vii)	Auditee	:	organization being audited.
viii)	Preventive action	:	action taken to eliminate the causes of a potential non-conformity, defect or other undesirable situation in order to prevent occurrence.
ix)	Corrective Action	:	action taken to eliminate the causes of an existing non-conformity, defect or other undesirable situation in order to prevent recurrence.
x)	Disposition of nonconformity	:	action to be taken to deal with an existing non-conforming entity in order to resolve the non-conformity

APPENDIX 2

SAFETY MANAGEMENT CERTIFICATE

(Official seal)   *(State)*

Issued under the provisions of the *INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974,* as amended

Under the authority of the Government of _____
                                                       (name of the State)

by _____
                                  (person or organisation authorised)

Name of ship: ....

Distinctive number or letters: ....

Port of registry: ....

Type of ship*:   ....

Gross tonnage: ....

IMO Number: ....

Name and address of company: ....

                            ....

                            (see paragraph 1.1.2 of the ISM Code)

THIS IS TO CERTIFY THAT the safety management system of the ship has been audited and that it complies with the requirements of the International Management Code for the Safe Operation of Ships and for Pollution Prevention (ISM Code),** following verification that the Document of Compliance for the Company is applicable to this type of ship.

This Safety Management Certificate is valid until ...., subject to periodical verification and the validity of the Document of Compliance.

Issued at ....
(place of issue of the document)
Date of issue ....

                             ....
               (Signature of the duly authorised official issuing the certificate)

(Seal or stamp of issuing authority, as appropriate)

*   Insert the type of ship from: Passenger ship; Passenger high speed craft; Cargo high speed craft; Bulk carrier; Oil tanker; Chemical tanker; Gas carrier; Mobile offshore drilling unit; Other cargo ship.

** Adopted by the Organisation by resolution A.741(18).

ENDORSEMENT FOR PERIODICAL VERIFICATION AND
ADDITIONAL VERIFICATION (IF REQUIRED)

THIS IS TO CERTIFY THAT, at periodical verification in accordance with regulation 6 of chapter IX of the Convention, the safety management system was found to comply with the requirements of the ISM Code.

INTERMEDIATE VERIFICATION
(to be completed between the **second** and the **third** anniversary date)

Signed: ....
(Signature of authorised official)

Place: ....
Date ....

ADDITIONAL VERIFICATION*

Signed: ....
(Signature of authorised official)

Place: ....
Date: ....

ADDITIONAL VERIFICATION*

Signed: ....
(Signature of authorised official)

Place: ....
Date: ....

ADDITIONAL VERIFICATION*

Signed: ....
(Signature of authorised official)

Place: ....
Date: ....

*   If applicable

APPENDIX 3

INTERIM SAFETY MANAGEMENT CERTIFICATE

(Official seal) *(State)*

Issued under the provisions of the *INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974*, as amended

Under the authority of the Government of _____
                                              (name of the State)

by _____
                        (person or organisation authorised)

Name of ship: ....
Distinctive number or letters: ....
Port of registry: ....
Type of ship*:   ....
Gross tonnage: ....
IMO Number: ....
Name and address of company: ....
                       ....
                            (see paragraph 1.1.2 of the ISM Code)

THIS IS TO CERTIFY THAT the safety management system of the ship complies with the provisions of paragraphs 3.3.4 and 3.3.5 of the Guidelines on the implementation of the ISM Code by Administrations.**

This Interim Safety Management Certificate is valid until ....

Issued at ....
(place of issue of the document)
Date of issue ....

                       ....
                       (Signature of the duly authorised official issuing the certificate)
(Seal or stamp of issuing authority, as appropriate)

The validity of this Interim Safety Management Certificate is extended to
....
Date of extension ....

                       ....
                       (Signature of the duly authorised official issuing the certificate)
(Seal or stamp of issuing authority, as appropriate)

* Insert the type of ship from: Passenger ship; Passenger high speed craft; Cargo high speed craft; Bulk carrier; Oil tanker; Chemical tanker; Gas carrier; Mobile offshore drilling unit; Other cargo ship.
** Adopted by the Organisation by resolution A.788(19)

APPENDIX 4

DOCUMENT OF COMPLIANCE

(Official seal)   *(State)*

Issued under the provisions of the *INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974,* as amended

Under the authority of the Government of_____

                                         (name of the State)

by _____

                            (person or organisation authorised)

Name and address of company: ....

....

                      (see paragraph 1.1.2 of the ISM Code)

THIS IS TO CERTIFY THAT the safety management system of the Company has been audited and that it complies with the requirements of the International Management Code for The Safe Operation of Ships and for Pollution Prevention (ISM Code),* for the types of ships listed below (delete as appropriate):

> Passenger ship
> Passenger high speed craft
> Cargo high speed craft
> Bulk carrier
> Oil tanker
> Chemical tanker
> Gas carrier
> Mobile offshore drilling unit
> Other cargo ship

This Document of Compliance is valid until ...., subject to periodical verification.

Issued at ....
(place of issue of the document)

Date of issue ....

                         ....
                      (Signature of the duly authorised official issuing the certificate)

(Seal or stamp of issuing authority, as appropriate)

ENDORSEMENT FOR ANNUAL VERIFICATION

THIS IS TO CERTIFY THAT, at periodical verification in accordance with regulation 6 of chapter IX of the Convention, the safety management system was found to comply with the requirements of the ISM Code.

1st ANNUAL VERIFICATION   **Signed:** ....
                                                    (Signature of authorised official)

                                  Place: ....
                                  Date   ....

2nd ANNUAL VERIFICATION   **Signed:** ....
                                                    (Signature of authorised official)

                                  Place: ....
                                  Date   ....

3rd ANNUAL VERIFICATION   **Signed:** ....
                                                    (Signature of authorised official)

                                  Place: ....
                                  Date   ....

4th ANNUAL VERIFICATION   **Signed:** ....
                                                    (Signature of authorised official)

                                  Place: ....
                                  Date   ....

APPENDIX 5

INTERIM DOCUMENT OF COMPLIANCE

(Official seal) *(State)*

Issued under the provisions of the *INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974,* as amended

Under the authority of the Government of_____

(name of the State)

by _____

(person or organisation authorised)

Name and address of company: ....

....

(see paragraph 1.1.2 of the ISM Code)

THIS IS TO CERTIFY THAT the safety management system of the Company has been recognised as meeting the objectives of paragraph 1.2.3 of the International Management Code for The Safe Operation of Ships and for Pollution Prevention (ISM Code),* for the type(s) of ships listed below (delete as appropriate):

> Passenger ship
> Passenger high speed craft
> Cargo high speed craft
> Bulk carrier
> Oil tanker
> Chemical tanker
> Gas carrier
> Mobile offshore drilling unit
> Other cargo ship

This Document of Compliance is valid until ....

Issued at ....
(place of issue of the document)

Date of issue ....

....
(Signature of the duly authorised official issuing the certificate)

(Seal or stamp of issuing authority, as appropriate)

* Adopted by the Organisation by resolution A.741(18)