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WORLD MARITIME UNIVERSITY
Malmö - Sweden

PROMOTION OF SHIP SAFETY IN ALGERIA

by

LARBI AHMED YAHIA

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ALGERIA

A paper submitted to the Faculty of the World Maritime University
in partial satisfaction of the requirements for the award of a

MASTER OF SCIENCE DEGREE

in

GENERAL MARITIME ADMINISTRATION.

The contents of this paper reflect my personal views and are not
necessarily endorsed by the UNIVERSITY.

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C H A P T E R I

GENERAL INTRODUCTION

GENERAL INTRODUCTION

The promotion of the ship safety programme in Algeria includes not only ship safety inspection but also the investigation of maritime casualties. The enforcement of the International Instruments with regard to maritime safety and environment protection should not only be the preoccupation of the flag state but also the preoccupation of the port state.

The International Community through the International Maritime Organisation (IMO) and the International Labour Organisation (ILO) has always taken dispositions to maintain standards for the safety at sea and the protection of the environment. The ILO deals with working conditions while the IMO deals with safety and environment protection standards.

The tasks of these international organisations are to prepare and adopt standards which should be implemented by the flag state.

In safety matters, the International Community articulates the principle of Port State Control in which the host country accepts the responsibility for enforcing internationally accepted safety standards regardless of the flag of registry and the practices of that registry. For example: If the country of registry has not satisfied the loadline convention, an overloaded ship will not be allowed to leave a port until the ship conforms. This means that responsibility for implementing International Conventions lies also with the port state which must ensure that no substandard ship should leave its port until the ship conforms.

Procedures for the control of ships were developed by IMO under the International Convention for the Safety Of Life At Sea (SOLAS 1960) and the Loadline

Convention 1966. They were adopted by the Assembly in 1957 by resolution A321 (IX). Other procedures were adopted in 1981 in accordance with the Memorandum Of Understanding (MOU) on Port State Control which is considered as a step towards the international uniformity of standards. This does not mean that Algeria has not taken into consideration the implementation of safety standards, but the control of their effective implementation has to be improved.

The purpose of this paper with regard to the marine casualty investigation is to provide a clearly defined policy to ensure acceptable and uniform standards of practices and procedures for the investigation of marine casualty. The aim of the investigation is to initiate any remedial actions by establishing their cause and to determine what measures should be taken to prevent a recurrence to promote safety at sea.

As for the way safety matters are carried out in Algeria, they could be improved by:

- Reinforcing the Safety Department within the Central Maritime Administration with regard to ship inspection and marine investigation,
- Establishing autonomous safety inspection centres at the local level, working with uniformized procedures when carrying out inspection on board ships along our coastline.

However, those recommendations can only be reached by having qualified personnel on maritime safety matters. For this reason I have proposed in my paper the training of surveyors and investigators.

C H A P T E R I I

THE ALGERIAN MARITIME ADMINISTRATION

1. Introduction:

Before describing the Algerian Maritime Administration I find it necessary to define the Maritime Administration, to describe the Algerian system of Government and to present the Algerian Maritime Code.

2. Definition of Maritime Administration:

All maritime affairs including shipping and maritime industries, are generally dealt with by an authority within the government. The competency of this authority depends mostly on the awareness of the government regarding maritime activities and on the qualifications of the personnel employed within it.

The most important maritime activities which should be dealt with are:

- The ownership
- Registration
- Management
- Operation
- Maintenance of National Fleet
- Maritime Industries
- Maritime Training

3. The Algerian System of Government:

Algeria is a socialist country which means that production means belong to the State.

The Constitution of 1975 revised in 1985 is based on the principle of division of power between the executive power, the legislative power and the judicial power.

Since 1962, the year of independence, maritime matters including fisheries were put in charge of the Ministry of Transport. This situation lasted until 1981, when the Secretariat of State in charge of Maritime Navigation and Fisheries was created because of the importance given to maritime activities. However, since 1983 fisheries have been taken over by the Ministry of Agriculture, while maritime transport has been kept under the Ministry of Transport.

A great number of ministers have functions with regard to maritime matters. The most important are:

The Ministry of Finance dealing with taxation matters, the Ministry of Justice responsible for commercial law aspects of maritime legislation and the Ministry of Transport and the Ministry of Labour sharing the labour questions. Safety matters come partly under the Ministry of Local Government and partly under the Ministry of Transport. Safety regarding fishing boats nowadays comes under the Ministry of Agriculture. Oil pollution protection is partly under the Ministry of Environment and partly under the Ministry of Transport. The Coast Guards under the Ministry of Defence play an important role when dealing with safety inspection matters. Abroad, Maritime affairs are delegated to the consulates connected to the Ministry of Foreign Affairs.

4. The Algerian Maritime Code:

The most important Act on which maritime affairs are based is the Algerian Maritime Code. This was adopted in October 1975 and consists of 887 articles written in two books which themselves are divided into Titles, Chapters, Sections and Paragraphs. The first

book includes two titles named "Navigations and Seafarers", while the second book divided into seven titles deals with "Commercial Exploitation of the Ship".

4.1 The First Book:

The first book called "Maritime Navigation" includes 383 articles and consists of public law regulations with regard to the administrative organisation of maritime navigation including the police and the safety of maritime navigation.

The definition of "the ship" is given in Chapter 2. This definition deals with the judicial regime of the ship, the administrative regime including the individualisation and the nationality of the ship. Immatriculation register and maritime liens are defined as well.

The property, mortgages and liens of the ship are dealt with in section 3.

The liability of the shipowner is dealt with in three sections. Section 4 dealing with the "normal" liability of the shipowner, section 5 dealing with the "special" liability of the shipowner with regard to damages due to pollution, and section 6 which deals with the retention of ship. "saisie Conservatoire".

The sea events are defined in the fourth chapter and consist of collision, general average, assistance and salvage of wrecked vessels.

The second title of Book One is divided into three chapters and reserved to seafarers.

The first chapter deals with the entry requirements to seafarer

functions, their administrative obligations and the control of manning ships.

The execution of the labour contract is dealt with in Chapter Two. A social accent is given to shipowner obligations. In fact the shipowner has to assure seafarers against the professional risks and he could be prosecuted for food matters and working conditions.

Chapter Three looks like a disciplinary code of the crew onboard ships. The infractions, offences and maritime crimes are defined as well.

4.2 The Second Book:

The second book, "Commercial Exploitation of the Ship" is divided in a different way compared to the first. After preliminary dispositions, seven different titles covering many matters constitute this book II. The preliminary dispositions are interesting because of the definition of the scope of application for not only the commercial exploitation of the ship but also the other economic aspects such as the exploration of maritime resources.

Title one covers maritime activities such as shipowning, brokerage, consignment and other ancillary functions. All these activities are state ruled and managed.

Chapter Two is interesting because it deals with "the Master" as commercial agent of the shipowner, therefore the master statute is well defined.

Titles two, three, and four consider the ship as an exploitation centre and deal with her commercial operations. The commercial

operations include chartering, carriage of goods by sea and transport of passengers. The rules included in titles one, two, three and four are reproductions of the International Convention rules.

The two last titles are reserved for the towage cargo handling functions carried out by state owned companies.

In general terms, the Algerian Maritime Code could be qualified as traditional and international with regard to the implementation of the international instruments.

As for the social field and the organisation of shipowning, the measures taken are favourable to the seafarers, showing the socialist option of the Algerian Government.

The implementation of rules embodied in the maritime code and their updating are the functions of the Maritime Administration.

5. The Algerian Maritime Administration:

Maritime affairs mainly come under the Merchant Marine Directorate and the Port Directorate under the Ministry of Transport.

The Merchant Marine Directorate deals with all matters regarding problems at sea. It is competent to elaborate, propose and adopt the principles and rules of the national policy for transportation matters and marine navigation. To reach this aim the Merchant Marine Directorate uses studies, research, and participates together with other concerned parties in the execution of the plans.

The Directorate ensures maritime navigation safety, elaborates and puts

into execution the contingency plans against marine pollution, regulates the organisation of the maritime coast and establishes the safety standards for ships and life at sea.

One of the main objectives of this directorate is to employ our national resources when carrying our foreign trade. In fact, fifteen years ago, our trade was completely dependent on foreign flags. Today, because of the rapid and great development of our national fleet, 25% of our foreign trade is carried by our own ships. The target, however, still to be reached is to carry 50% of our own trade.

5.1 The Merchant Marine Directorate:

The Merchant Marine Directorate consists of two sub-directorates; the Maritime Transport Sub-Directorate and the Maritime Navigation Sub-Directorate.

5.1.1 The Maritime Transport Sub-Directorate:

This sub-directorate consists of three bureaus:-

a. Fleet and Traffic Bureau

This bureau is in charge of:-

- The development of the maritime activities regulations and the determination of the exploitation conditions of the maritime companies.
- The studies and proposals of adequate measures in order to ensure the optimum use of national means.
- The control of the conditions and the evolution of maritime transport capacities and the adaption of them to the national needs.

- The development of maintenance plans of ships and maritime equipment.
- The regulation and control of chartering operations.
- The organisation and study of elements regarding maritime traffic, (passengers and cargo).

b. Economic Analysis Bureau

This bureau is in charge of:

- The studies of maritime transport economics and the evaluation of the national needs in coordination with the parties concerned.
- Participating in the development of economic and financial norms regarding the production and management of resources.
- The preparation and determination of tariffs regarding maritime transport services.

c. International Maritime Relations Bureau

This third bureau is in charge of:

- The development of the development plans and programmes of equipment.
- The development and evolution of the technical aspects of equipment.
- Participating in the coordination of the establishment of maritime training programmes with all those parties concerned.
- Participating in the preparation and negotiation of the International Maritime Conventions.

5.1.2 The Maritime Navigation Sub-Directorate:

This second sub-directorate consists of the Maritime Navigation Bureau, the Seafarers Bureau and the Maritime Safety Bureau.

a. The Maritime Navigation Bureau

This first bureau deals with:

- The preparation of the legislation regarding ship's traffic and control of maritime navigation.
- The studies and proposals of the development programme on maritime navigation.
- Participating in the preparation and negotiation of the International Conventions.

b. The Seafarers Bureau

This second bureau is responsible for:

- The definition of the entry requirements for the seafarer function.
- The preparation and adoption of the seafarer status and assuring their application.
- Participating in the development of training programmes for maritime personnel.
- The preparation and proposals of measures regarding the seafarers welfare.
- Participating in the preparation and negotiation of the International Conventions.

c. The Maritime Safety Bureau

This last bureau deals with safety matters and is responsible for:

- The development of safety standards required on-board ships and the establishment of the working conditions regulations.
- The determination of the rules concerning pollution prevention.
- Participating with those other services concerned in the studies of the maritime environment.
- The organisation and coordination with other parties in search and rescue, salvage and assistance at sea.

A central commission for safety is connected to the Maritime Navigation Sub-Directorate.

d. The Central Commission for Safety

This commission is competent in the approbation of new ships plans and the homologation of safety equipment. It is also competent in investigation matters. In fact it has to identify the causes of accidents, and elaborates on the new rules in order to improve safety of life at sea.

5.2 The Port Directorate:

All the port activities are dealt with by autonomous companies located in each Algerian port. However, these companies are state owned and come directly under the Port Directorate within the Central Administration. The Port Directorate is competent for the development of the guidelines of the National Policy for port activities. This directorate is composed of two sub-directorates:

5.2.1 The Port Exploitation Sub-Directorate:

This sub-directorate is responsible for:

- The establishment of rules and regulations on safety within the port areas,
- The exploitation and management conditions of the ports,
- The development of the tariff scheme of the port and transit service,
- The coordination of the port activities at the national level and the proposition of measures for this coordination.

This sub-directorate consists of:

a. The Coordination and Traffic Bureau

This bureau is in charge of:

- Collecting, organising and analysing all the elements with regard to port traffic,
- The studies and evaluation of the future port traffic,
- The coordination of port activities at the national level,
- The development of tariff schemes,
- The improvement of work efficiency.

b. The Technical Bureau

This second bureau deals with:

- The development of port activities regulations,
- The development of safety rules,

- The management and exploitation conditions of the companies,
- Participation in the preparation and negotiation of International Conventions.

5.2.2 The Port Equipment Sub-Directorate:

This second sub-directorate elaborates and makes proposals on the port national system. It deals also with investment studies, development plans of port equipment and port infrastructures. It consists of two bureaus:

a. The Port Equipment Bureau

Its main tasks are:

- The participation in investment studies,
- The determination of maintenance conditions.

b. The Development Bureau

This bureau

- Elaborates the development plans of the port,
- Elaborates the training programme for the port personnel,
- Elaborates research programmes.

5.3 Maritime Affairs at the Local Level:

In each maritime District (Wilaya Maritime), a Sub-Directorate of Maritime Affairs has been established. This Sub-Directorate comes under the Transport Directorate within the District which is under the Ministry of local Government. The Sub-Directorate

has only functional relationships with the Merchant Marine Directorate. The competencies of the Sub-Directorate are as follows:

- Registration of Seamen,
- Social Security, Welfare of Seamen,
- Registration of Ships,
- Inspection of Ships,
- Licensing of Small Ships.

The inspection of ships by the Sub-Directorate is carried out by a commission.

5.3.1 The Inspection Commission of Navigation and Maritime Labour:

a. Scope of Competency

The inspection commission is competent within the maritime administrative limits of the concerned District.

The commission is under the Directorate of transport of District.

b. Attributions

The commission is in charge of:

- The examination and approval of construction plans of ships of less than 500 GRT,
- The first survey of ships of less than 500 GRT,
- The survey of all ships without size limitation,
- The verification of titles and documents on board ships as regulated by the maritime code,
- The checking of Ship Inspection Reports,
- The investigation of maritime casualty for ships of less than 500 GRT.

c. Composition

The commission members are designated by a Ministry decision. The commission consists of:

- The Director of Transport of the district as a president of the commission,
- One maritime affairs administrator,
- A navy representative,
- A navigation surveyor,
- An engine surveyor,
- A radio-communications surveyor, coming from the telecommunication ministry.

The following could be members as well:

- A doctor for seafarers,
- A port authority representative,
- A shipowner representative.

Abroad, the consulate is in charge of establishing the inspection commission. The safety inspection of ships is also carried out by a control brigade.

5.3.2 Control Brigade:

Control brigades have been established by Decree 83.676 of November 1974. The brigades are in charge of the coordination of ships survey. They are in charge of the application of rules and regulations on:

- The protection of national economy, ~
- Safety on board ships,
- Firefighting,

- Validation of documents and application of legislation with regard to:
 - a. Customs,
 - b. Navigation,
 - c. Boundary Police, and
 - d. Health Matters.

The brigade members meetings are held in the harbour master's office. The harbour master has to inform the brigades on:

- The movement of ships,
- Their flags,
- Their technical characteristics, etc.

The brigade consists of:

- A coast guard representative,
- Customs representative,
- A fire brigade representative,
- A navigation inspection representative,
- A maritime health representative.

The means used by the brigade are made available by the maritime administration. After any inspection a written report has to be sent to the maritime administration. If the ship surveyed presents any deficiency a detailed inspection should be done by the safety commission.

5.3.3 Maritime Casualty Investigation:

Casualties or accidents aboard ships are reported through the sub-directorate of maritime affairs of the district where they occur.

The Central Maritime Administration is the first authority to be made aware of a casualty and will call the Central Commission of safety which looks at the case by carrying out inquiries.

6. Comments:

6.1 Inspection Commission of Navigation and Maritime Labour:

As stated earlier, the inspection commission of navigation and maritime labour consists of members coming from different Ministries.

The first disadvantage of the ship inspection function when carried out by the commission is the time which should be taken to call the said commission. In fact it can only operate when carrying out the periodical survey on Algerian ships. The second disadvantage of the ship inspection function when carried out by the sub-directorate of maritime affairs personnel is the lack of personnel.

Because of the large scope of competencies of the sub-directorate, ship inspection including Algerian and foreign ships is reduced at its lower level.

In fact the same personnel deals with registration of ships and seamen, and with ship inspection as well.

The volume of work with regard to ship inspection in our ports is such that it can not be dealt with by the few people working at the sub-directorate. The ship inspection function has to be given more importance by recruiting the surveyors and should be

dealt with by a separate organization which will relieve the sub-directorate of maritime affairs from this function. The recruitment and training of surveyors are two most important points of which the Central Maritime Administration should be aware.

6.2 Brigade Control:

The aim of the brigade control is important because it tries to carry out the ship safety inspection before the entry of ship into our ports in order to avoid any substandard ship operating near our coast. However, these brigades are facing some problems especially when calling the members constituting them. In fact the same problem stated earlier for the inspection commission is found again here.

Another problem faced by the brigade is the lack of equipment. Carrying out inspections out of the ports necessitates boats and other equipment, which are still not yet available.

6.3 Investigation of Maritime Casualties:

At the local level, any maritime casualty is reported by the sub-directorate of maritime affairs which as was stated earlier has a wide range of competency.

To discharge the sub-directorate from this function, investigators should be appointed by the Central Administration at the local level. Because of the important problem of wrecked ships faced by Algeria in recent years, some solutions have to be considered in order to eliminate the entry into our ports of any substandard ship.

In fact when recovering the cost of refloating a wrecked ship, the Algerian Government has always supported the operation. To avoid the unnecessary expenditures an action has to be taken by the ship safety inspection centre at the earliest stage before the ship begins her commercial operation.

7. Recommendations:

To carry out well the maritime affairs in any country the government has to be aware of their importance to the national economy.

The structure which will relieve the government of maritime affairs should be well manned both in quality and quantity. To deal well with the maritime affairs, the number of functions within the Central Administration should be well defined as well.

However, sometimes, for financial reasons, the Central Administration personnel has to be reduced as much as possible, but the rational structure has to consist of the most important tasks, especially when dealing with safety matters.

In fact, in Algeria, where the state-owned fleet is more than two million GRT and where the coastline is more than 1200 Km. with important ports, safety matters have to be well carried out and monitored at a Central Level.

For this purpose, the personnel within the Central Administration have to be increased both in quality and quantity, to improve the safe operation of the merchant fleet either flying Algerian or foreign flags. For the operation of the Algerian fleet it will certainly reduce the operational costs and improve efficiency. For the foreign flag, it will reduce or totally avoid the entry into our ports of any substandard ships.

The recommendations proposed should be viewed as a whole. They affect not only the Central Administration level, but also the local one.

- The first part of the recommendations involves the reinforcement of the safety department within the Central Administration by incorporating a new function partition. The safety matters have to be dealt with in a specific way. In this connection I have proposed in my paper a new chart, where changes affect the Maritime Safety Department.
- The second part of the recommendations deals with the establishment of ship safety inspection centres which should be separate from the Sub-Directorate of Maritime Affairs and the appointment of Investigators at the local level.

7.1 The New Organization of Maritime Administration

The new changes are mainly related to the Maritime Navigation Sub-Directorate dealing with safety matters.

I have proposed that this Sub-Directorate could be called the Maritime Safety Department and could consist of all the safety functions. More functional divisions have to be operated, in fact more interest should be given to ship inspection, marine casualty investigation, pollution prevention and the training bureau.

7.1.1 Description of the Functions:

a. Ship Inspection Bureau

The objectives of this bureau are to make sure that all ships operating in our ports meet the minimum

safety standards. This bureau deals with matters such as:

- Maintaining Data
- Issuing Certificates
- Coordinating Ship Inspection
- Tonnage Measurements
- Evaluating New Concepts
- Initiating and Participating in Research
- Participating in International Activities

This bureau should be directly responsible for the ship inspection centre of the maritime district which has to report to it. The personnel of this bureau should be qualified as surveyors (deck, engine and hull).

b. Investigation Bureau

The investigators in the field have to report to this bureau which also deals with:

- Setting up regulations related to the investigation methods.
- Maintaining data.
- Making recommendations which could help the ship inspection bureau when making new regulations.
- Major accidents or casualties.

The personnel have to be recruited among investigators.

c. Pollution Prevention Bureau

This bureau has to prevent the occurrence of marine pollution by:

- Setting up regulations and making sure that they are enforced,
- Attending to the preparation of the International instruments,
- Evaluating new concepts,

and operates as a coordinator in the event of an emergency regarding a large oil spill.

d. Training Bureau

This bureau is in charge of:

- Participating in the development of the training programme of maritime personnel and to review it from time to time.
- The planning of the number of trainees to be recruited for training.
- The inspection of training institutions.
- Maintaining statistics relating to merchant marine personnel.
- The issuing of certificates of competency.

This bureau has to work closely with the Maritime training institutions and the Maritime industry. To deal with all matters pertaining to the training of merchant marine officers, ratings and other seagoing personnel, a merchant marine training board could be established. This merchant marine training board would consist of personnel from the Maritime industry, training institutions and the maritime administration.

The existence of this functional division proposed within the current Sub-Directorate of Navigation could be explained

by the large volume of work faced by this directorate and the special care which has to be given to safety matters.

7.2 Recommendations at the Local Level:

The second part of the recommendations deals with the establishment of ship safety inspection centres in our main ports and the appointment of investigators at the local level. The new institutions will come directly under the Safety Department within the Central Maritime Administration.

7.2.1 Ship Safety Inspection Centres:

Currently, there are only functional relationships (indirect relationships) between the Central Maritime Administration and the Sub-Directorate of Maritime affairs which deals with ship safety inspection.

This situation implies a slow circulation of information and no power of control from the central administration over the Sub-Directorate at the local level.

Another disadvantage that could be noted is that the ship inspection function is not as well carried out as it is supposed to be because of lack of surveyors and the important volume of work which has to be dealt with by the Sub-Directorate. As far as the ship safety inspection function is concerned, it has to be dealt with by a separate entity run by qualified and experienced surveyors coming directly under the central Maritime Administration. Ship safety inspection centres have to be created in each maritime district. Certainly Algeria is currently faced with the

problem of lack of surveyors, however, qualified and experienced Master mariners, chief engineers and naval architects do exist. The solution to the problem of lack of surveyors has to take into account, the recruitment, the training and the working conditions of seagoing personnel interested in survey functions. These points will be dealt with later. Obviously, having regard to the common task of minimising casualties and accidents, there should be effective coordination with the investigation department at the local and central levels.

7.2.2 Marine Investigation Casualty

The promotion of safety of life and ships at sea is the preoccupation of investigators as well. In fact safety has to be based on well organized marine investigation casualty procedures. Marine investigation is deemed to be an exhaustive, comprehensive inquiry into the cause of a marine casualty, or into the conduct of a ship's crew. To avoid casualties that have happened in the past and to be well prepared in case of any remedy, investigators have to be appointed along our coastline, especially at the most sensitive points. The investigation of shipping casualties is a highly specialized task and can only be carried out effectively by experienced personnel holding certificates of competency as Master mariners or chief engineers or their equivalents. The recruitment, training and work conditions will be dealt with later on.

Currently, investigation matters are the task of the Central

Maritime Administration which calls commissions after any maritime casualty. The commission consists of:

- Maritime Administration
- Coast Guards Representative
- Maritime Pilot
- Shipowner Representative
- The Local Maritime Administration where the casualty has happened
- Witnesses

At the local level, the Maritime Administrator has only to report the facts to the central level which will proceed to the inquiry, interview witnesses and determine causes which will result in new rules and regulations.

In so far as casualties are concerned, liaison and cooperation with other Authorities have to be harmonious, in order to avoid conflicts of competency. The conflict of competency has always been present, when a marine casualty occurs. In fact coast guard personnel, the local Maritime Administration and local police have always been involved.

Memoranda of understanding have to be laid down between the said Authorities relating to their competency with regard to marine casualties. To avoid the conflict of competency the authorized investigator who is appointed at the local level will have full competency when proceeding to the inquiry, hearing witnesses and reporting to the central level.

A conflict of interest could appear between the investigation and the safety inspection functions, when carried out by the same institution. In fact it is difficult to imagine that the same institution could deliver safety documents to one given ship, or certificates of competency to an officer and withdraw them in the event of a marine casualty. In this connection, safety inspection and investigation functions could be seen as separate and different functions which should be dealt with by different institutions. However, the linkage between them has to be kept by ensuring that the two processes operate at a distant.

The authority charged with making reports of marine occurrence investigations and objective findings of facts will help the safety inspection authority at the local and central level to identify safety deficiencies and to take action in avoiding remedies.

The investigation function has to be seen as a safety analysis, helping the regulatory department to promote safety. The two institutions could still work closely and consult each other, when exchanging information, maintaining data etc.

Even though maritime safety matters are taken care of by various institutions, dealing efficiently with them would be impossible without intimate cooperation with other organizations such as classification societies.

In Algeria

- LLOYD's Register of Shipping

- DET NORSKE VERITAS
- American Bureau of Shipping
- NIPPON KAISI KYOKAI
- GERMANISHER LLOYD

are recognized competent to:

- Draw the load line marks on Algerian ships and deliver the safety certificates in conformity with the load line convention,
- Survey the construction of Algerian ships and delivery safety certificates in conformity with the International Convention on safety of life at sea, and,
- Ensure the classification of Algerian ships.

However, because of the non-liability of the classification societies when ensuring classification of ships, especially after any marine casualty, the maritime countries position is reduced to a lower level when taking agreement contracts with the societies. In this connection classification societies, to be more reliable have to be more responsible when classifying ships and could be liable in any case of incompetency concerning their representatives.

Having identified the recommendations, especially those dealing with the establishment of ship safety inspection centres and the appointment of investigation at the local level, their working process has to be described taking into account the international instruments and how the safety matters are internationally dealt with.

C H A P T E R I I I

S H I P S A F E T Y I N S P E C T I O N

1. Introduction:

Being aware of the substandard ships phenomenon, the maritime nations have implemented procedures for the control of ships which should at least comply with the minimum standards required under the international instruments set up by IMO and ILO.

Responsibility for combating this phenomenon lies not only with the international organizations but also with the flag states which have the primary responsibility for the effective implementation of the standards embodied in the relevant conventions.

A substandard ship was defined under section III/3 of resolution A. 321 (IX) and A. 466 (XII) which was entitled "Identification of substandard ship". "A ship may be regarded as substandard, namely:

- If the hull, machinery or equipment such as for life saving, radio and fire fighting are below the standards required by the relevant convention owing to, inter alia,
 - a. The absence of equipment or arrangement required by the conventions,
 - b. Non-compliance of equipment or arrangement with relevant specification of the convention,
 - c. Substantial deterioration of the ship or its equipment because of, for example, poor maintenance and

- If there are evident factors as a whole or individually which make the ship unseaworthy and put at risk the life of persons on board if it is allowed to proceed to sea."

The international instruments including the right and the obligation for

the port state control to verify that foreign ships and their crew comply with the minimum standards are as follows:-

- + ILO No. 147 Article 4,
- SOLAS 74/78 Chap. I, Reg. 19,
- STCW 78 Article X
- MARPOL 73/78 Article 5 and
- + LLC 1966 Article 21

These international instruments are included in the memorandum of understanding on port state control agreed on a regional basis by some European countries. Furthermore, most countries are operating individually when carrying out ship safety inspection. However, their national legislation is mostly based on the regulations embodied in the aforesaid international instrument.

Regarding port state control in Algeria, I have proposed the establishment of ship safety inspection centres dealing only with surveys of ships.

2. The International Concern on Port State Control:

The tasks of ILO and IMO are to prepare, adopt the relevant safety standards and look for their implementation and continuous improvement.

2.1 Activities of The ILO:

Working conditions aboard ships have a direct impact on the safety of life at sea.

Very early on, in 1958, the ILO took into consideration this point and adopted some recommendations known as number 108 calling for the adoption of rules and regulations for the safety of life at sea,

for a ship inspection service and for the certification of seafarers.

The most important instruments set up by the ILO are the merchant shipping (minimum standards) convention 1976 (No. 147). The text of the convention implies the "no more favourable treatment" notion which means that this right applies to the non-convention ships. The convention No. 147 known as an "umbrella convention" obliges all ships to observe the provisions of the major ILO adopted maritime conventions.

2.2 Activities of the IMO:

The maritime safety committee noted that the international concern with the control of ships was to prevent the operation of substandard ships regardless of the flag under which such a ship might be registered. Measures and procedures have been provided in many international instruments adopted by IMO relating to the scope and nature of port state control thus international conventions and resolutions have been adopted.

2.2.1 International Conventions:

- a. The International Convention for the Safety of Life at Sea 1974 and the 1978 protocol.

Signed on 1 November 1974, the International Convention for the Safety of Life at Sea was amended and supplemented by the protocol of 7 February 1978

Regulation 19 of Chapter I includes the right of port states to verify that there are valid safety certificates on board foreign flag ships. When the condition

of a ship or its equipment makes the ship unseaworthy the surveying officer may take all measures to ensure that the ship will not proceed to sea until it conforms.

- b. The International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers, 1978.

The objective of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers is to improve safety at sea by setting up minimum requirements for the training of masters, of officers for the deck, engine and radio departments and of ratings.

The Article X of the convention incorporates the right of port states to control all ships while in their ports, to verify that the ships crew complies with the requirements embodied in the convention.

- c. The International Convention for the Prevention of Pollution from Ships, 1973 and the 1978 Protocol.

On the International Convention for the Prevention of Pollution from Ships, an obligation is imposed upon contracting parties to prevent or reduce pollution from ships either intentionally or incidentally. The convention contains provisions against oil pollution, the control of pollution by noxious liquid substances in bulk, prevention of pollution by harmful substances carried by sea in packaged forms or in mobile tanks and for the prevention of pollution by sewage and garbage from ships.

Its Article 5 authorises port states to verify that there is on board ships a relevant certificate issued by the flag state.

d. The Load Line Convention 1966.

The objective of the Load Line Convention is "to establish uniform principles and rules with respect to the limits to which ships on international voyages may be loaded having regard to the need for safeguarding life and property at sea.

Its Article 21 allows port states to check that there is on board foreign ships a valid certificate, including loading limits, and the position of the load line.

2.2.2 Resolutions:

- a. The IMO resolution A.466 (XII) of 19 November 1981 entitled "Procedures for the Control of Ships."

This resolution A.466 (XII) provides procedures and guidelines for the control of ships by the port state. Lists of addresses of administrations and inspection services are included in it.

- b. The IMO resolution A.482 (XII) of 19 November 1981, entitled "Principles of Safe Manning."

Every ship to which the STCW convention applies has to carry a minimum safe manning document issued by the administration of the flag state and specifying the minimum safe manning requirement for the ship

concerned. It should be noted that:

- SOLAS 74-78 convention,
- MARPOL 73/78,
- STCW 78
- Resolution A.466 (XII)

incorporate the non-favourable treatment principle implying that the non-convention ships have the same rights and obligations as the convention ones.

3. Example of Port State Control:

The 1982 Paris Memorandum of Understanding.

The best example of port state control is without doubt the 1982 Paris memorandum of understanding.

A conference on maritime safety including 13 West European countries was held in Paris on 1st and 2nd December 1980. Its purpose was to reach an agreement with regard to an effective port state control on a regional basis. A draft was developed in the Hague stating that port state control should be carried out with respect to all foreign flag ships calling at these western European countries without any discrimination. The memorandum was signed in Paris on 26th January, 1982 by 14 western European countries. Finland was represented at that time. The agreement is essentially based upon the relevant IMO and ILO conventions.

3.1 Description of the Memorandum:

The signatory states undertake to achieve an annual total of inspection comprising 25 percent of individual foreign flag merchant ships calling at their ports. These foreign ships should comply with the relevant international conventions, namely:-

- the LLC 1966,
- SOLAS 1974/78,
- MARPOL 1973/78,
- STCW 1978,
- COLREG 1972/81 and
- the ILO convention No. 147.

The inspection of ships should be carried out in accordance with the "Guidelines for Surveyors" including:

- Resolution A.466 (XII) entitled "Procedures for the control of ships".
- Resolution A.481 (XII) entitled "Principles of safe manning" with its two annexes, namely:
"Contents of minimum safe manning documents" and
"Guidelines for the application of principles of safe manning" and
- Resolution A. 542 (13) entitled "Procedures for the control of ships and discharges" under annex 1 to MARPOL 73/78.

3.2 Inspection Procedures:

The inspection consists of a visit on board a ship in order to verify the certificates and documents required by the international instruments. More detailed inspection will be carried out if the following cases arise:

- A report or notification by another authority,
- A report or complaint by the master, a crew member or any person or organization with a legitimate interest in the safe operation of the ship, shipboard living and working conditions or the prevention of pollution, unless the authority concerned deems the

report or complaint to be manifestly unfound,

- Other indications of serious deficiencies with regard in particular, to annex 1 of the memorandum.

Special attention should be paid to:

- Ships which may present a special hazard for instance, oil tankers gas and chemical carriers,
- Ships which have had several recent deficiencies.

The ship presenting the serious deficiency should be delayed or retained until appropriate action has been taken.

The flag state is notified through its representation in the country concerned. The master of the ship is provided with a document giving the results of the inspection. The information given on the port state report should be sent for each ship inspected to the data base in Saint Malo (France) and up-to-date information about ships inspection are sent to other ports in the region.

3.3 Organization:

In order to promote safety and eliminate sub-standard ships through the port state control, a secretariat and committee have been established by the memorandum.

The committee is composed of representatives of the authorities and of the European Economic (EE) commission and observers from IMO and ILO. Its task is to harmonize inspection procedures by holding seminars for surveyors and to tackle points such as rectification, detention, the application of the no more favourable treatment

clauses. If the 25 percent control Quota is attained, 80 percent of the world's merchant shipping will be subject to control which means that the phenomenon of sub-standard ships will certainly decrease.

It could be concluded from the memorandum of understanding purposes, that it is a good instrument looking towards the uniformity and standardization of the safety procedures established through the international organizations. This situation will oblige the developing countries to conform at least with the minimum standards required by the international instruments in order to continue operating their fleet, especially in this current competitive situation.

4. Recommendations:

Safety standards should be the same for all ships whatever their flag of registry. Any government, when implementing international standards, has to establish national laws and regulations and decide safety standards for the design, construction and operation of ships. However, in reality, the financial costs have always been involved when introducing new requirements.

In general, the government has to consider the financial situation and decide on a balance between safety standards and the costs that the industry can stand.

Developing countries have for a long time been absent on the international scene when adopting new requirements and due to the different economical situations of countries, developing ones meet great difficulties in implementing the highest practicable standards set by the international organizations.

More participation in the international organization conference is needed. Difficulties in controlling the effective implementation of the standards are met by developing countries as well.

I have proposed in my paper the establishment of maritime safety inspection centres in our main ports which will carry out the survey of ships.

4.1 The Contribution of Developing Countries to the Evolution of Safety Standards:

The contribution of developing countries to the evolution of safety standards can be achieved only if they participate more in the various sessions and conferences of the international organizations.

The highest conceivable standards are not always the highest practicable ones mainly due to the differences in the economical situations of the countries involved.

However, a balance between the minimum standards and the lower economical costs has to be determined.

The needs of developing countries compared to their means can always be identified during the meeting of the international organization which will look for a compromise when setting up new requirements. For the standards which have already been implemented, countries have to establish a control process to ensure their effective application. However, the maintaining of the minimum standards has always been taken into consideration by Algeria, but the carrying out of these could be improved by establishing specialized institutions.

4.2 Ship Safety Inspection Centres:

Establishing adequate maritime safety inspection centre to maintain and improve safety requirements should be necessary in any maritime country. By maritime safety inspection centre I mean the organization which is in charge of any inspection related to safety carried out on board ships in any Algerian port.

The inspection includes not only Algerian ships but also foreign ships. It will result in the elimination of access to our ports of any ship, maintain the minimum safety standards and uniform the safety survey function along our coastline.

4.2.1 Location of the Centres:

The partition of the safety inspection centres and surveyors along our coastline depends essentially on the importance of the maritime traffic of each port. The more the traffic becomes important the more the number of surveyors which should be appointed will become important too. Another point that should be taken into consideration is the nature of the traffic of each port, in fact some ports are specialized ports whereas others are for multi-purpose purposes. For this reason the background of surveyors has to be considered as well.

4.2.2 Other Considerations:

The financial management and working processes of these centres are important points to consider too.

a. Financing:

Governments are responsible for taking all the steps which may be necessary to carry out port state control efficiently. In this connection, establishing adequate organizations to give the conventions and national laws full and complete effect so as to ensure that sub-standard ships would be eliminated is extremely important. Financing may be provided by the Ministry of Transport as far as safety of life at sea is concerned as it is its responsibility. The financial aspect and costs involved for the training of surveyors and the investigation and the establishment of such centres are not included in my paper, however, the costs which could be involved are as follows:

- Training Costs
- Buildings and Their Maintenance
- Equipment (Computerisation)
- Surveyors' Salaries
- Others

b. Management:

The centres are under the responsibility of the Ministry of Transport. The recruiting, training and appointment of surveyors is the responsibility of the central administration as well. The management of the centres is dealt with by the field surveyors when carrying out their daily tasks, however, a close relationship with the central level should exist.

c. Job Description:

At each port, the safety inspection centre has to be informed daily by the port authority about the maritime traffic. The centre has to daily establish a schedule related to the number and the flag of ships which should be inspected. The primary aim of these inspections is to fight against the sub-standard ship phenomenon through a well-organized safety system. The inspection should be mainly based on the international instruments related to safety in order to fully implement them. An information system has to be established between the centres and the central level through the inspection reports which will help the central administration to maintain data and take measures and pass regulations to improve safety.

Particular attention should be given to computerization which has to be introduced in the centres in order to improve work efficiency. It should contain data on all of the ships inspected, especially those which have presented deficiencies, and be a uniform information system between all the centres. The inspection will be carried out in accordance with:

- The Resolution A.466 (XII) shown in annex I,
- The "Aide Memoire" annex II which consists of a checklist where most instruments containing provisions of the international conventions are included,
- The computerized report annex III.

An initial survey commission can be created in any port to examine when a ship is brought into operation under the Algerian flag, whether she fulfils the safety requirements.

Whereas an annual survey commission can be created to examine whether the ship still fulfils the relevant specifications. The composition of these commissions depends on the size of ships and consists of nautical, ship and radio surveyor and doctor.

The head of Ship's Safety Center directs the commission.

C H A P T E R I V

MARINE CASUALTY INVESTIGATION

1. Introduction:

Marine casualties occur in the following situations:

The loss or presumed loss, stranding, grounding, abandonment of or damage to a ship, a loss of life or serious personal injury caused on board or any damage caused by a ship. The investigation into marine casualties has always been a great preoccupation of the IMO.

The marine investigations systems differ from one country to another. However, the purpose remains the same and it is to avoid a recurrence.

Generally, when a casualty occurs, some and at times, many interests all seeking to obtain details with a view to satisfying their particular principals are involved. The ship's master and others are usually asked the same questions by several people.

In order to avoid such situations, enquiries into casualties have to be held under the Merchant Shipping Act which should regulate the matter. Officials have to be appointed and a standardized system of investigation has to be set up.

The policing of the regulations on marine casualties has an international character, because of the role played by the IMO seeking to standardize the system.

2. The International Concern:

The international conventions which are binding once adopted by a country and resolutions which are only recommendations indicate the extent of the IMO requirements.

2.1 International Convention on Load Lines, 1966 Article 23,

Casualties:

- " 2.1.1 Each administration undertakes to conduct an investigation of any casualty occurring to ships for which it is responsible and which are subject to the provisions of the present convention when it judges that such an investigation may assist in determining what changes in the convention might be desirable.
- 2.1.2 Each contracting government undertakes to supply the organization with the pertinent information concerning the findings of such investigations. No reports or recommendations of the organization based upon such information shall disclose the identity or nationality of the ships concerned or in any manner fix or imply responsibility upon any ship or person."

2.2 Resolution A.147 (November 20, 1968)

Reports on Accidents Involving Significant Spillage of Oil:

"The Assembly,

For the purpose of promoting action by the government concerned in cases of significant spillage of oil following accidents.

Having in mind the recommendation of the council of the IMO at its third extraordinary Session, recommends to government that they:-

- 2.2.1 Require masters of all ships to report immediately through the channels which may be found most practicable and adequate under the circumstances, all accidents in which their ships are involved which have given or may give rise to significant

spillage of oil. Such reports should, if possible, include details on the nature and degree of pollution, the movement of the oil slick and any other useful information as appropriate.

- 2.2.2 Ensure that any such reports received by any authority in the country be forwarded to such an officer or agency with all despatch.
- 2.2.3 Provide the organization with information concerning the appointment of such an officer or agency for circulation to government. "

2.3 Resolution Article 173 (November 28, 1968)

Participation in Official Inquiries into Maritime Casualties:

"The assembly,

Nothing that there is a variation in the practices of member states with regard to official inquiries into maritime casualties, and other proceedings directly consequent upon such inquiries.

With a view to ensuring that states seriously affected by or having a substantial interest in maritime casualties, particularly where oil pollution to their coasts has resulted, shall have an opportunity of their being represented at inquiries into, or other such proceedings relating to such casualties, and desiring to encourage international unification of practice in relation to such inquiries and proceedings.

Recommends to governments that if a state other than the state of the flag is known to have been seriously affected by or to have a

substantial interest in a maritime casualty occurring to a ship of the flag of the state (particularly where the coast of the other state has been polluted by oil) as a result of the casualty:

2.3.1 The state of the flag should, unless an inquiry is held by that state as a matter of course, consult with the other state as to the holding of an inquiry into the casualty by one or other of the states, complying with the provisions of sub-paragraph (2.3.2).

If such an inquiry is held as a matter of course by the flag state, the other state should be informed of its time and place.

2.3.2 Such an inquiry should be so conducted that, subject to the national rules relating to the special conditions under which inquiries are held in camera,

- a. the public is permitted to attend and
- b. arrangements are made which would, subject to the discretion of the authority holding the inquiry, allow a representative of the other state concerned to attend and participate in the inquiry at least to the extent of:

- Questioning witnesses or causing questions to be put through the authority concerned, and
- Viewing all relevant documents.

2.3.3 If an inquiry is held by a state seriously affected or having a substantial interest, a representative of the state of the flag should be given similar facilities.

If one or other of the conditions of sub-paragraph (2.3.2) above cannot be complied with at the inquiry itself, this recommendation shall be treated as being complied with if the condition not previously satisfied is satisfied in proceedings directly consequent upon the inquiry. Nothing in this recommendation shall affect or apply to the holding of any preliminary or informal inquiry or any other proceedings.

A state shall not be treated for the purposes of the recommendations as being affected by or having a substantial interest in a maritime casualty by reason only that it is the flag state of one of two ships in collision nor should the fact that one or more of its nationals has a commercial interest in the ship or its cargo in itself confer such interest."

2.4 International Convention for the Safety of Life at Sea.

"SOLAS" 197 - Regulation 21 - Casualties:

"2.4.1 Each administration undertakes to conduct an investigation of any casualty occurring to any of its ships subject to the provisions of the present convention when it judges that such an investigation may assist in determining what changes in the present regulations might be desirable.

2.4.2 Each contracting government undertakes to supply the organization with pertinent information concerning the findings of such investigations. No reports or recommendations of the organization based upon such information shall disclose

the identity or nationality of the ships concerned or in any manner fix or imply responsibility upon any ship or person."

2.5 Resolution Article 322 (November 12, 1975)

The Conduct of Investigations into Casualties:

"The assembly,

Draws attention to the obligations of contracting governments concerning the investigation of casualties set out in the above mentioned conventions.

Urges contracting governments to provide the organization with relevant information regarding lessons to be learnt and conclusions derived from the investigation of casualties.

Requests the maritime safety committee to examine regularly such reports supplied by contracting governments and to recommend action as necessary.

Further, requests the maritime safety committee in consultation with the secretariat to consider whether the organization should take the initiative in listing serious casualties and in requesting administrations to give information regarding the inquiries held into them and their findings and thereafter to take any appropriate action to this end."

2.6 Resolution Article 440 (November 15, 1979)

Exchange of Information for Investigations into Marine Casualties:

"The assembly,

Nothing that the maritime safety committee has considered reports of investigations into serious marine casualties and has recognized the importance of a free exchange of information between governments and, in particular, the need for providing details of those casualties."

Being aware that investigations into casualties, especially in the case of collisions, are often hampered by lack of exchange of information where ships under different flags are involved.

Having considered the recommendations made by the maritime safety committee at its thirty-ninth session.

"Urges governments to co-operate on a mutual basis in investigation into marine casualties and to exchange information freely for the purpose of a full appraisal of such casualties".

In the Load Line and SOLAS conventions, the obligation of the states to investigate and to report to IMO is conditional upon their sole judgement, while in cases of the resolutions only recommendations are made.

In resolution A. 173, particularly when oil pollution occurs, the participation of a foreign state could be allowed at the investigation.

The role of IMO in standardizing casualty investigations has been limited, however, resolution designed to encourage states to adopt procedures for investigating maritime casualties that facilitate cooperation between states has been recently proposed.

Consultations between states having an interest in a maritime casualty have to be made, information relevant to the casualty should be exchanged as well.

The resolution defines the situations where the state could have a substantial interest.

The recommendations in the resolution are directed at formal inquiries encouraging states conducting them to work with other states.

Various maritime countries have made great efforts to implement accident and casualty investigation system.

3. Examples from Certain Countries:

Even if the investigation process into marine casualties differs slightly from one country to another, the aim of it, will remain the same and it is to intensify the work for the safety of life at sea by setting up new rules and regulations to avoid recurrences.

3.1 France:

The French casualty investigation system differs from the others since it is oriented towards penalizing rather than finding causes.

The investigation is carried out in all cases by the maritime affairs administrator who proceeds to a summary fact finding inquiry and can carry out a preliminary inquiry under very strict rules of secrecy. He has the power of a magistrate when questioning witnesses. No civil liability is dealt with at a public penal hearing but it could be dealt with by common law courts. The judgment of the commercial maritime court is made public. The court consists of a maritime administrator as the head, a magistrate of the high court, a steamship inspector and it looks into offences such as lack of exercise of authority by the master, absence from duty, etc.

3.2 The Netherlands:

The investigation casualty system enacted on the Merchant Shipping Act of 1909 was established in 1856.

A casualty investigation department is one of the divisions under the Ministry of Transport and Public Works, employing full-time officers and deputy inspectors working in the field.

First of all, the casualty has to be reported by the notification of ship masters and investigated if it qualifies as serious. The preliminary inquiry is held in camera by the surveyors in the field working for the shipping inspection service. The investigator sends statements and other documents to the department at the central level, adding his opinion as to the cause of the casualty.

No reports of the casualty and investigation process are published unless there is a public hearing, however, the decisions are made public. Disciplinary sanctions are not part of the process. The public hearing process is dealt with by a shipping court which receives the report from the investigation department. This court consists of a chairman, an appeal court judge and two substitute chairmen who are judges as well, two full-time members, one being a navy commander and the other a sea captain, and certain other specialists in various fields.

The court renders a verbal decision or a written one depending on the case.

3.3 The United Kingdom:

The casualty investigation process is enacted by the Merchant Shipping Act of 1894 amended in 1970 and later in 1979. The British procedure is more or less the same as the Canadian one.

The investigation system consists of a preliminary inquiry and a formal investigation into casualties. The investigation subsection is under the General Marine Division at the Central Level. Headquarters surveyors are appointed to carry out important preliminary inquiries. Others are carried out by field surveyors. All

casualties have to be reported. The surveyors proceeding over a formal investigation have the power to suspend or to revoke the certificates of ship's officers. The formal investigation is mainly used for civil liability purposes.

Three levels of investigation do exist:

- 3.3.1 Surveyor's report: done through an informal process by a surveyor who submits a report.
- 3.3.2 Declaration: when the casualty is serious a surveyor has to take statements from witnesses.
- 3.3.3 Preliminary inquiry: the investigator has extensive powers, to detain a ship, to copy documentary evidence, etc.
The witnesses sometimes have to sign their statements.

The investigator has to report the investigation containing the witnesses declaration and the background factual information and it should also contain the investigator's opinion as to the cause of the event including recommendations.

Formal Investigation:

The formal investigation could be held when there has been considerable loss of life or if there is great public concern or certain other considerations.

The Secretary of State has to determine who will be part of the formal investigation.

The wreck commissioner will preside and assessors are appointed.

The investigator carrying out the preliminary inquiry will attend

as a witness.

Canadian is operating some changes related to the procedures of investigation. The investigation department has become autonomous in order to avoid any conflict of interest with the safety branch department which is in charge of the survey of ships and the delivery of safety documents.

3.4 Norway:

Police and public prosecution work is done by six investigators. Court proceedings are compulsory when a Norwegian ship has been involved in a serious casualty.

In the court procedure the maritime investigator can ask questions to witnesses, the testimonies of ship officers are taken. A commission of inquiry can be established when extensive loss of life or property occurs. This commission is appointed by the Ministry of Justice and consists of legal, nautical and technical experts, the chairman being a supreme court judge. The reports are made public.

3.5 Comments:

It appears from the investigation process that in any maritime casualty a field investigator has to intervene by proceeding to a preliminary inquiry and obtaining factual information, collecting documents, questioning witnesses, giving his opinion and making recommendations related to the casualty. If the casualty is of a serious nature a commission will generally be held under a court judge and will proceed to a more detailed inquiry usually known as a formal investigation.

The process will be successful only if:

- Firstly: The field officer is qualified to hold the preliminary inquiry.
- Secondly: The investigation structure is well established.

4. Recommendations:

4.1 Introduction:

Because of the need for impartiality in an investigation, it could be better that field investigator has to be given an independent appointment and take full responsibility for the conclusion in his report.

It could also be argued that any Administration which uses the same body for exercising the potential conflicting responsibilities for regulating safety purposes on the one hand and investigation casualties on the other is subject to possible charges of partiality.

Therefore, an Investigation Department has to be established at the central level. However, if there is a lack of personnel and financial resources, the Investigation Department can always come under the Director of the Safety Department but would have to be given special considerations.

4.2 The Investigation Process:

4.2.1 At the Local Level:

For any casualty, an investigator is appointed to conduct a preliminary inquiry which involves the taking

of declarations and a thorough investigation into all aspects of the casualty.

The investigator may cover a simple chain of events or he may extend to complex matters involving consultations with a wide variety of shipping industry interests.

Therefore, the investigation authority should have jurisdiction to investigate all marine casualties and should be empowered to delegate all or part of such jurisdiction to the local authority.

The field investigator has the power to:

- a. Take declarations.
- b. Enter premises and ships.
- c. Make necessary examinations.
- d. Take samples.
- e. Require the production of documents.

The field investigator could require the production of documents, even those issued by the Safety Department to whom he belongs.

Therefore, the Maritime Code has to protect his integrity.

A preliminary inquiry report is prepared and sent to the Investigation Department to decide on what further action is required and in particular to determine whether a formal investigation should be held. The preliminary inquiry report should cover:-

a. Particulars of Vessel or Vessels Involved:

Name, port of registry, official number, gross and net tonnages, dimensions, type, year built and place, draught, owners, local agents, navigating appliances, etc.

b. List of Witnesses:

Name, address, phone number, occupation, date of birth, certificate of competency or other qualifications, date and place obtained experience, when joining the vessel, etc.

c. Background:

A brief outline of the circumstances in which the casualty occurred, including the date, place and outcome.

d. Narrative:

An account of the circumstances leading to the casualty, the casualty itself and the events following the casualty. Relevant extracts of the evidence can be inserted as well.

e. Investigator's Remarks:

This part should contain the investigating officer's critical observations and opinions based on the facts and his own experience.

f. Conclusions:

Conclusions as to the cause of the casualty.

g. List of Documents:

A copy of the written report and other documents as evidence are sent to the Investigation Department which will decide on the action which should be taken. Sometimes a formal investigation could be decided upon, especially:-

- If after a preliminary inquiry, the cause of the casualty ought to be more clearly determined,

- If there has been a considerable loss of life, and
- If there is wide public concern.

4.2.2 At the Central Level:

The General Director of the Safety Department sitting with technical assessors (Masters, Chief Engineers) will direct the formal investigation. The court of commerce dealing with maritime cases will produce its findings and take the decisions.

The Investigation Department has no control over the court proceedings or the production of the investigation report.

The major functions of the General Director of the Safety Department are to:

- Develop regulatory requirements/procedures for the reporting and investigation of maritime casualties.
- Direct the formal investigation.
- Initiate action to undertake a preliminary inquiry.
- Arrange for the location, inspection and recovery of wrecks.

The Investigation Departments, both at the central and local level, have to be run by qualified investigators. In fact, the investigation of shipping casualties is a highly specialized task and one which can only be carried out effectively by fully trained and experienced personnel, possessing certain qualities such as, attitude for

investigative work, impartiality, objectivity, etc.

Investigative officers who are seafarers should possess certificates of competency such as Master Mariner, Chief Engineer, or an equivalent certificate and should be trained as well.

C H A P T E R V

TRAINING OF SURVEYORS
AND
INVESTIGATORS

1. Introduction:

The training of surveyors and investigators could be developed on the same basis for both functions. In fact to be a surveyor or investigator the basic knowledge needed has to be gained from practical experience at sea.

However, the functions are not carried out in the same way, and the training programme will have to include the slight differences that are related to the way that the functions have to be dealt with.

Before describing the courses available, some points should be considered:

- Training Facilities,
- Instructors, and
- Trainees.

1.1 Training Facilities:

The training of both surveyors and investigators consists of two programmes; one theoretical, the other practical.

The theoretical training could be given at the Algerian Maritime Institute because of its aims.

The practical training in the field among qualified surveyors and investigators could be either given in Algeria or abroad, if the number of investigators and surveyors to be trained is important.

1.2 Instructors:

The major difficulty which could be met by the training is without

doubt the lack of qualified instructors in this field. However, this problem can be either solved by appointing the Algerian representatives in IMO to give lectures related to the theoretical side or by appointing IMO or classification society experts. The instructors for the practical side should be sufficiently experienced in the field, but currently a shortage of such qualified instructors has been noted in Algeria. This situation will oblige future investigator, and surveyors to receive their job training abroad.

1.3 Trainees:

To make the functions attractive for former seafarers, they have to be given specific status within the General Status of Workers where the terms and conditions of employment relating to remuneration, hours of work, employee benefits and general working conditions are defined.

The entry requirements to these positions have to be defined as well and they are as follows:-

- a. Engineers and ship surveyors, concerned with the hulls, machinery boilers and safety equipment of passenger and cargo ships, inquiries into shipping casualties, international collision regulations, marine pollution avoidance, tonnage measurement, load line duties, examination for certificates of competency; candidates must have five (5) years experience as chief engineer on steam and motor ships.
- b. Nautical surveyors, carry out surveys of safety and navigating equipment, inspect stowage of grain timber and dangerous

cargoes, inquire into shipping casualties, tonnage measurement, load line duties, examination for certificates of competency; candidates must have been masters of merchant ships for at least five (5) years.

- c. Ship surveyor, carry out surveys of the construction, stability and fire safety, survey life boats under construction and on board ships, investigate shipping casualties; candidates must have held a responsible position for five (5) years in ship construction or repairs.

1.4 Courses Available:

The training programme of investigators and surveyors consists of two parts, one theoretical and one practical.

1.4.1 Theoretical Training:

The candidates are supposed to have a good knowledge concerning ship structure and its equipment. The theoretical training will prepare the candidates for their future positions by providing them with the necessary material which should be used when carrying out their duties. The programme's length will be four (4) weeks and consists of:

- An introduction of the Safety Department structure.
- The study of the international instruments.
 - a. IMO, ILO, structure, role and functions.
 - b. MARPOL 73/78
 - c. SOLAS 74/78
 - d. COLREG 72
 - e. STCW 78

- f. Tonnage Measurement
- g. Load Lines 66.
- h. Resolution A.466 (VII)
- i. Principle of Safe Manning Resolution
- j. ILO Resolution No. 147
- k. Introduction to Computerization

A special course should be added to the investigator candidates related to the ways of carrying out an investigation. In this case a short training could be given a police authority.

The aim of the study of the international instruments is to provide the candidates with a knowledge of:-

- Ship inspection - machinery.
- Ship inspection - hull.
- Fire prevention - structural arrangements.
- Life saving equipment.
- Nautical examination and certification.
- Navigational aids equipment.
- Cargo - dangerous goods.
- Pollution matters.

1.4.2 Practical Training:

To gain experience in the field and to understand how the functions have to be carried out, the candidates have to come under the charge, for at least six (6) months, of well qualified investigators.

Because of the lack of the number of experienced personnel

in Algeria, the candidates have to be sent abroad, either through the IMO or the UNDP.

The aim of the practical training is to provide the future investigators and surveyors with the techniques and methods used when carrying out both functions.

GENERAL CONCLUSION

In order to be able to draw up the necessary legislation with respect to safety and to ensure its effective implementation, it is necessary to have a good understanding of the different requirements contained in international instruments. Therefore, more participation by developing countries in the various sessions of sub-committees, committees and conferences of IMO is necessary.

One important problem met by the Maritime Administrations of these countries is the non-involvement in the evolution of international standards and the consequential problem of having to deal with them in isolation.

Furthermore, the economical cost of implementing new requirements has always been involved, but one has to consider the economical situation and decide on balance between safety standards and the cost involved.

A contracting government is obliged to undertake that all regulations necessary for the effective implementation of a convention are promulgated in order to ensure that:-

- A ship, from the safety point of view, is fit for the service for which it is intended, and
- A ship does not present any threat of harm to the crew, passengers and marine environment.

Therefore, an organization run by qualified personnel under the Maritime Administration dealing with ship safety inspection has to be established to combat the phenomenon of sub-standard ships.

This organization could be extended to a regional level including neighbouring

countries in order to reach the harmonization of procedures and practices relating to ship inspection.

Speaking about the Maritime Casualty Investigation System, impartiality is needed. The public formal investigation procedure provides for an investigation that is seen to be independent of the body which is responsible for regulating safety.

However, I have proposed in my paper that an investigation bureau has to be created under the Safety Department, but the link between them has to be kept by ensuring that the two processes operate at a distance. To avoid possible charges of partiality, it is advisable to separate the regulatory and casualty investigation functions.

To promote any ship safety programme, the human element has to be considered as well. In fact, it falls to the Maritime Administration itself to identify the training needs and ensure that they are made available.

Practical experience on the job is still an essential ingredient of any competent officer's background; however, when this is supplemented by sound training techniques, it is possible not only to accelerate the qualifying process but also to ensure that the final product is better equipped to make the right decisions when tackling problems.

Both seagoing and shore-based personnel, must out of necessity possess a maritime background, training and sea experience.

The effective implementation and maintenance of safe standards depends both

on the awareness of the Maritime Administration of any given country and on its national economy.

Finally, implementing and maintaining safe global standards can only be achieved by all member countries, particularly developing countries actively participating in the international conferences and reaching agreement on the universal application of the international maritime instruments.

ANNEX I

GUIDELINES ON CONTROL PROCEDURES

General:

In the exercise of control functions the surveyor will have to use his professional judgement to determine whether to detain the ship until the deficiencies are corrected or to allow it to sail with certain deficiencies which are not vital to the safety of the ship, its crew or passengers, having regard to the particular circumstances of the intended voyage. The following notes are intended to be used for the guidance of surveyors mainly in connection with the physical condition of a ship and its equipment. Nevertheless the surveyor should also take into account the requirement of Regulation 13, Chapter V of the applicable International Convention for the Safety of Life at Sea that all ships be sufficiently and efficiently manned.

In the pursuance of control procedures under Regulation 19 of Chapter 1 of the applicable International Convention for the Safety of Life at Sea, or Article 21 of the International Convention on Load Lines, 1966, which, for instance, may arise from information given to a port State regarding a sub-standard ship, an authorized surveyor may proceed to the ship and before boarding gain, from its appearance in the water, an impression of its standard of maintenance from items such as the condition of its paintwork, corrosion or pitting and unrepaired damage.

Year of Build:

At the earliest possible time the surveyor should ascertain the year of build for the purpose of determining which conventions are applicable and to indicate that information in the report.

On boarding and introduction to the master or responsible ship's officer,

he should examine all SOLAS Convention and Load Line Convention certificates. He should also take note of any requirements placed on the certificates by the flag State indicating which convention requirements for new ships shall be applied to their existing ships. If the certificates are valid and his general impressions and his visual observations on board confirm a good standard of maintenance he should generally confine his inspection to any reported deficiencies.

Inspection:

If, however, the surveyor from his general impressions or observations on board has clear grounds for believing that the ship might be sub-standard, he should proceed to a more detailed inspection, taking the following considerations into account.

Structure:

His impression of shell maintenance and the general state on deck, the condition of such items as ladderways, guardrails, pipe coverings, and areas of corrosion or pitting should influence his decision as to whether it is necessary to make the fullest possible examination of the structure with the ship afloat. Significant areas of damage or corrosion, or pitting of plating and associated stiffening in decks and hull affecting seaworthiness or strength to take local loads, may justify detention. It may be necessary for the underwater portion of the ship to be checked. In reaching his decision, the surveyor should have regard to the seaworthiness and not the age of the ship, making an allowance for fair wear and tear over the minimum acceptable scantlings. Damage not affecting seaworthiness will not constitute grounds for judging that a ship should be detained, nor will

damage that has been temporarily but effectively repaired for a voyage to a port for permanent repairs. However, in his assessment of the effect of damage the surveyor should have regard to the location of crew accommodation and whether the damage substantially affects its habitability.

Machinery Spaces:

The condition of the machinery and of the electrical installations should be such that they are capable of providing sufficient continuous power for propulsion and for auxiliary services.

During inspection of the machinery spaces, the surveyor will form an impression of the standard of maintenance. Frayed or disconnected quick closing valve wires, disconnected or inoperative extended control rods or machinery trip mechanisms, missing valve handwheels, evidence of chronic steam, water and oil leaks, dirty tank tops and bilges or extensive corrosion or machinery foundations are pointers to an unsatisfactory organization. A large number of temporary repairs including pipe clips or cement boxes will indicate reluctance to make permanent repairs.

While it is not possible to determine the condition of the machinery without performance trials, general deficiencies such as leaking pump glands, dirty water gauge glasses, inoperable pressure gauges, rusted relief valves, inoperative or disconnected safety or control devices, evidence of repeated operation of diesel engine scavenge belt or crankcase relief valves, malfunctioning or inoperative automatic equipment and alarm systems, and leaking boiler casings or uptakes, would warrant inspection of the engine room log-book and investigation into the record of machinery failures and accidents and a request for running tests of machinery.

If one electrical generator is out of commission, the inspector should investigate whether power is available to maintain essential and emergency services and should make tests.

If evidence of neglect becomes evident, the surveyor should extend the scope of his investigation to include, for example, tests on the main and auxiliary steering gear arrangements, overspeed trips, circuit breakers, etc.

It must be stressed that while detection of one or more of the above deficiencies would afford guidance to a sub-standard condition, the actual combination is a matter for professional judgement in each case.

Conditions of Assignment of Load Lines:

It may be that the surveyor has concluded that a hull inspection is unnecessary but, if dissatisfied, on the basis of his observations on deck, with items such as defective hatch closing arrangements, corroded air pipes and vent coamings, he should examine closely the conditions of assignment of load lines, paying particular attention to closing appliances, means of freeing water from the deck and arrangements concerned with the protection of the crew.

Life-Saving Appliances:

The effectiveness of life-saving appliances depends heavily on good maintenance by the crew and their use in regular drills. The lapse of time since the last survey for a Safety Equipment Certificate can be a significant factor in the degree of deterioration of equipment if it has not been subject to regular inspection by the crew. Apart from failure to

equipment required by a Convention or obvious defects such as holed life-boats, the surveyor should look for signs of disuse of, or obstructions to, boat launching equipment which may include paint accumulation, seizing of pivot points, absence of greasing, condition of blocks and falls and improper lashing or stowing of deck cargo.

Should such signs be evident, he would be justified in making a reasonably detailed inspection of all life-saving appliances. Such an examination might include the lowering of boats, a check on the servicing of liferafts, the number and condition of life-jackets and lifebuoys and ensuring that the pyrotechnics are still within their period of validity. It would not normally be as detailed as that for a renewal of the Safety Equipment Certificate and would concentrate on essentials for safe abandonment of the ship, but in an extreme case could progress to a full Safety Equipment Certificate inspection. The provision and functioning of effective overhead lighting, means of alerting the crew and provision of illuminated routes to embarkation positions should be given importance in the inspection.

Fire Safety:

A. Ships in General:

The poor condition of fire and wash deck lines and hydrants and the possible absence of fire hoses and extinguishers in accommodation spaces might be a guide to a need for a close inspection of all fire safety equipment. Even on a ship which is otherwise well regulated and maintained, the effectiveness of the emergency fire pump can be suspect. However, if the fire pump is inoperable, this in itself would not constitute grounds for judging the ship as sub-standard,

but the ship should not be permitted to sail until the fire pump is operable or some alternative means is provided. In addition to compliance with convention requirements the surveyor should look for evidence of a higher than normal fire risk, this might be brought about by a poor standard of cleanliness in the machinery space, which together with significant deficiencies of fixed or portable fire-extinguishing equipment could lead to a judgement of the ship being sub-standard.

B. Passenger Ships:

Having regard to the annual survey requirements applicable to passenger ships with convention certificates, the number of such ships likely to qualify for consideration as sub-standard should be small in relation to cargo ships. However, the surveyor should initially form his opinion of the need for inspection of the fire safety arrangements on the basis of his consideration of the ship under the previous headings and, in particular, that dealing with fire safety equipment. If the surveyor considers that a more detailed survey of fire safety arrangements is necessary, he should examine the fire control plan on board in order to obtain a general picture of the fire safety measures provided in the ship and consider their compliance with convention requirements for the year of build. Queries on the method of structural protection should be addressed to the flag Administration and the surveyor should generally confine his inspection to the effectiveness of the arrangements provided.

The spread of fire could be accelerated if fire doors are not readily operable. The surveyor might inspect for their operability and securing arrangements those doors in main zone bulkheads and stairway enclosures and in boundaries

of high fire risk spaces such as main machinery rooms and galleys, giving particular attention to those retained in the open position. Attention should also be given to main vertical zones which may have been compromised through new construction. An additional hazard in the event of fire is the spread of smoke through ventilation system. Spot checks might be made on dampers and smoke flaps to ascertain the standard of operability. The surveyor might also ensure that ventilation fans can be stopped from the master controls and the means are available for closing main inlets and outlets of ventilation systems.

Attention should be given to the effectiveness of escape routes by ensuring that vital doors are not maintained locked and that alleyways and stairways are not obstructed.

Regulations for Preventing Collisions at Sea:

A vital aspect of ensuring safety of life at sea is full compliance with the Collision Regulations. In his observations on deck the surveyor should consider the need for close inspection of lanterns and their screening and means of making sound and distress signals.

Cargo Ship Safety Construction Certificate:

The general condition of the ship may lead the surveyor to consider matters other than those concerned with safety equipment and assignment of load lines, but nevertheless associated with the safety of the vessel, such as the effectiveness of items associated with the Cargo Ship Safety Construction Certificate, which can include pumping arrangements, means for shutting off air and oil supplies in the event of fire, alarm systems and emergency power supplies.

Cargo Ship Safety Radio Certificates:

The validity of the Cargo Ship Safety Radiotelegraphy or Safety Radiotelephony Certificate may be accepted as proof of the provision and effectiveness of its associated equipment but the surveyor should ensure that appropriate certificated personnel are carried for its operation and for listening periods. The radio log should be examined to confirm that mandatory safety radio watches are being maintained.

Equipment in Excess of Convention or Flag State Requirements:

Equipment on board which is expected to be relied on in situations affecting safety or pollution prevention must be in operating condition. If such equipment is inoperative and is in excess of the equipment required by an appropriate convention and/or the flag State it should be repaired, removed or, if removal is not practicable, clearly marked as inoperative and secured.

Temporary Substitution of Equipment:

In any inspection concerned with the assessment of a ship, the surveyor should have as his objective the ensuring of conditions vital for the safety of the ship and its passengers and/or crew. This should be the determining factor in his judgement whether to detain. It may be that replacement equipment cannot be obtained without serious delay to the ship; in such a case, provided effective alternative means are substituted until convention requirements can be met, the ship should not be detained, always on the understanding that due promptness is observed in effecting replacements. A typical example is substitution of liferafts for damaged boat; provided that means are also available for rescuing a man overboard, a ship should not be detained. However, the associated circumstances of the need for replacement of equipment

should be considered in the surveyor's assessment of the ship.

Conclusion:

The surveyor should ensure that all vital remedial measures are taken to safeguard the safety of the ship and its passengers and/or crew before permitting a ship to sail.

A N N E X I I

SOME GUIDELINES FROM
"AIDE MEMOIRE" FOR SURVEYORS

INTRODUCTION

This " Aide-Mémoire " is compiled to assist the surveyor with cross-references from the text in Annex 1 of the Memorandum of Understanding to the Articles, Numbers and Regulations of the " Relevant Instruments ".

It may be of use to the surveyor when filling out the column " references " in the " Report on Inspection in accordance with the Memorandum of Understanding on Port State Control ".

The surveyor will apply those relevant instruments which are in force and to which his State is a Party. In the case of amendments to a relevant instrument the surveyor will apply those amendments which are in force and which his State has accepted.

The surveyor shall bear in mind that most instruments contain provisions for " existing " ships that differ from provisions for " new " ships, and in particular, provide that an " existing " ship may continue to comply with the provisions of the Convention in force at the date of its building contract, the date the keel is laid or any other date mentioned in the relevant instruments.

The surveyor shall exercise his own professional judgement when carrying out an inspection.

In no way this " Aide-Mémoire " is meant as a checklist nor has it been drawn up on the assumption that it would be exhaustive in every detail.

This Aide-Mémoire will be supplemented and - if necessary - reviewed from time to time. The dates of publication of the supplements can be noted down below.

First date of publication : February 1984

Supplement No.

Date

1.....*FK*.....

1. JAN. 1985

2.....

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3.....

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CONTROL

Port State Control is laid down in the Regulation and Articles of the hereafter mentioned Conventions :

- Load Lines Convention 1966, Article 21 ;
- MARPOL 73/78, Articles 4, 5 and 6 ;
- SOLAS 1974 Convention, Chapter I, Regulation 19 ; */
- STCW Convention 1978, Article X ;
- Merchant Shipping (Minimum Standards) Convention, 1976
(ILO-No.147), Article 4.

Each Authority which has ratified the Merchant Shipping Convention (ILO-
- No. 147), has satisfied itself that the provisions of national laws
and regulations are substantially equivalent to the Conventions or
Articles of Conventions referred to in the Appendix to the Merchant
Shipping Convention, in so far as the Authority is not otherwise bound
to give effect to the Conventions in question.

The Conventions referred to in the Appendix to the Merchant Shipping
Convention are, *inter alia* :

- Minimum Age (Sea) Convention, 1920 (ILO-No.7) ;
- Medical Examination (Seafarers) Convention, 1946 (ILO-No.73) ;
- Prevention of Accidents (Seafarers) Convention, 1970 (ILO-No.134) ,
Articles 4 and 7 ;
- Accommodation of Crews Convention (Revised), 1949 (ILO-No.92) ;
- Food and Catering (Ships' Crew) Convention, 1946 (ILO-No.68),
Article 5 ;

- Officers' Competency Certificates Convention, 1936 (ILO-No.53),
Articles 3 and 4 .

The text of the Guidelines for surveyors (Annex 1 to the MOU)
is based on articles from these conventions.

- */ The existing text of Regulation 19 is replaced by a new text in
the " Protocol of 1978 Relating to the International Convention
for the Safety of Life at Sea, 1974 " .

CODES FOR REFERENCEExplanatory note

The codes for reference used in this " Aide-Mémoire " are abbreviated and may be of use when filling out the column " references " in the " Report on Inspection in accordance with the MOU on PSC " and in the telex to the C.A.A.M. (Centre Administratif des Affaires Maritimes) at St. Malo.

<u>Convention /</u>	<u>Aide-Mémoire</u>
<u>Code Names</u>	<u>Reference Code</u>
SOLAS 48	S48
SOLAS 60	S60
SOLAS 74	S74
Protocol 78 (SOLAS 74)	S74P78
MARPOL 73/78	M73/78
Load Lines 66	LL66
COLREG 72	C72
STCW 78	STCW
ILO No. 7	IL07
ILO No. 53	IL053
ILO No. 68	IL068
ILO No. 73	IL073
ILO No. 92	IL092
ILO No.134	IL0134
ILO No.147	IL0147
Bulk Chemical Code	BCC
Gas Carrier Code	GCC
Gas Carrier Code (Existing)	GEX

Convention / Code subdivision

<u>Name</u>	<u>Code</u>
1st set of amendments (AMENDM.)	-1
2nd set of amendments (AMENDM.)	-2
Chapter (CHAP.)	C
Part	P
Annex	AN
Regulation (REG.)	R
Article (ART.)	A
Number (No.)	N

Example 1 :

Messroom (Location) - Nature of deficiency code : 0399

-Mess room shall be located apart from the sleeping rooms and as close as practicable to the galley -

Convention	:ILO No. 92 (Accommodation of Crews Conventio
Part	:Part I. General provisions
Article	:Article 11
Paragraph	:Paragraph 8

Aide-Mémoire Code :ILO92 - PI - A11 - 8

Example 2 :

Oil discharge monitoring and control system - Nature of Deficiency code :1740

(Cargo spaces - Oil Tankers \ 150)

Convention	;MARPOL 73/78
Annex	:Annex I
Regulation	:Regulation 15
Paragraph	:Paragraph 3
Subparagraph	:Subparagraph (a)

Aide-Mémoire Code :M73/78 - ANI - R15 - 3 - a

CODES FOR NATURE OF DEFICIENCIES

0000	None
<hr/>	
0100-1999	Deficiencies which are clearly hazardous to safety, health or the environment
<hr/>	
<u>0100</u>	<u>SHIP'S CERTIFICATES</u>
0110	SOLAS SAFETY EQUIPMENT
0111	SOLAS SAFETY CONSTRUCTION
0112	SOLAS PASSENGER SAFETY
0113	SOLAS SAFETY RADIO
0120	LOAD LINES
0130	LIQUIFIED GASES (CERT. OF FITNESS)
0140	CHEMICALS IN BULK (CERT. OF FITNESS)
0150	INTERNATIONAL OIL POLLUTION PREVENTION (I.O.P.P.)
0199	OTHER
<u>0200</u>	<u>CREW</u>
0210	MINIMUM AGE
0220	CERTIFICATES OF COMPETENCY
0230	NUMBER / COMPOSITION (According to the Safe Manning Documents if available)
0240	MEDICAL CERTIFICATES
0299	OTHER
<u>0300</u>	<u>ACCOMMODATION</u>
0310	DIRTY, PARASITES
0320	VENTILATION, HEATING
0330	SANITARY FACILITIES
0340	DRAINAGE
0350	LIGHTING
0360	PIPES, WIRES
0370	SICK BAY
0371	MEDICAL EQUIPMENT
0399	OTHER

0400 FOOD AND CATERING

0410 GALLEY, HANDLING ROOMS
0420 PROVISIONS
0430 WATER, PIPES + TANKS
0499 OTHER

0500 WORKING SPACE

0510 VENTILATION, HEATING
0520 LIGHTING
0599 OTHER

0600 LIFE SAVING APPLIANCES

0610 LIFEBOATS
0611 LIFEBOAT INVENTORY
0620 LIFERAFTS
0630 LAUNCHING DEVICES
0640 DISTRESS SIGNALS
0650 LIFEBOUOYS
0660 LIFEJACKETS
0670 PORTABLE RADIO
0680 EMBARKATION
0685 MARKING / NUMBER / CAPACITY
0686 BUOYANT APPARATUS
0690 LINE-THROWING APPLIANCES
0699 OTHER

0700 FIRE FIGHTING APPLIANCES

0710 PREVENTION
0711 INERT GAS SYSTEM
0715 DETECTION
0720 FIRE FIGHTING EQUIPMENT
0725 FIXED FIRE EXTINGUISHING INSTALLATION
0730 APPLIANCES (GENERAL EQUIPMENT)

ODE	DESCRIPTION	MOU	REFERENCE(S)				
		ANNEX 1	CONV. (+) AMENDM.	CHAP.=C PART =P ANNEX=AN	REG.=R ART.=A No. =H	PARA- GRAPH	SUB- PARA GRAPE
0130 (cont.)							
	Initial survey		GCC-4	*/	N1.6	1	1
	Periodical survey		GCC-4	*/	N1.6	1	2
	Intermediate survey		GCC-4	*/	N1.6	1	3
	Annual survey		GCC-4	*/	N1.6	1	4
	Additional survey		GCC-4	*/	N1.6	1	5
0140	<u>Chemicals in Bulk</u>	2					
	Issue		BCC-10	*/	N1.6	3	
	Issue(another Government)		BCC-10	*/	N1.6	4	
	Duration		BCC-10	*/	N1.6	5	
	Initial survey		BCC-10	*/	N1.6	1	1
	Periodical survey		BCC-10	*/	N1.6	1	2
	Intermediate survey		BCC-10	*/	N1.6	1	3
	Annual survey		BCC-10	*/	N1.6	1	4
	Additional survey		BCC-10	*/	N1.6	1	5
0150	<u>International Oil</u>	2					
	<u>Pollution Prevention +</u>						
	<u>Supplement A or B</u>						
	Issue		M73/78	ANI	R5/R6		
	Duration		M73/78	ANI	RB		
	Initial survey		M73/78	ANI	R4	1	a
	Periodical survey		M73/78	ANI	R4	1	b
	Intermediate survey		M73/78	ANI	R4	1	c
	Annual survey		M73/78	ANI	R4	3	b
0199	<u>Other</u>						
	Exemption Certificate		S74	CI	R14		
			S74P78	CI	R14		

CODE	DESCRIPTION	MOU	ANNEX	CONV. (+) AMENDM.	REFERENCE(S)			
					CHAP.=C PART =P ANNEX=AN	REG.=R ART.=A No. =N	PARA- GRAPH	SUB- PARA GRAPH
0210	<u>Minimum Age</u>	4.2.1		ILO7			A2	
0220	<u>Certificates of Competency</u>	3.3.1						
	<u>General</u>							
	Officer			ILO53			A3&A4	
	Master, Officer, Rating			STCW			A.VI	
	Radio Officer			S74	CIV	R2	e	
	Radiotelephone Operator			S74	CIV	R2	f	
	<u>Minimum Requirements</u>							
	Master + Nav. Officer (Ship \geq 200 g.r.t.)			STCW	CII		RII/3	
	Master + Chief Mate (Ship \geq 200 and \leq 1600 g.r.t.)			STCW	CII		RII/2	3&4&5
	Master + Chief Mate (Ship \leq 1600 g.r.t.)			STCW	CII		RII/2	1&2&5
	Nav. Officer			STCW	CII		RII/4	
	Nav. Rating			STCW	CII		RII/6	
	Chief- 2nd Engineer (750 KW - 3000 KW)			STCW	CIII		RIII/3	
	Chief- 2nd Engineer (\leq 3000 KW)			STCW	CIII		RIII/2	
	Watch-Engineer			STCW	CIII		RIII/4	
	Watch-ER Rating			STCW	CIII		RIII/6	
	Radio Officer			STCW	CIV		RIV/1	
	Radiotelephone Operator			STCW	CIV		RIV/3	
	<u>Training and Qualification</u> (Minimum Requirements) (Master, Officer, Rating)	3.3.5						
	Oil Tanker			STCW	CV		RV/1	
	Chemical Tanker			STCW	CV		RV/2	
	Liquefied Gas Carrier			STCW	CV		RV/3	

A N N E X I I I

COMPUTERIZED SURVEY REPORT

Name:

Call Sign:

Registration:

Dead Weight:

Gross Tonnage:

Construction Contract:

Cubic Capacity:

Date of Delivery:

Keel Laid:

Type of Ship:

M/V:

Classification Society:

Length:

Shipowner:

Inspectors:

Load Line Certificate Delivery:

Validity:

Construction Certificate:

Date of Expiry:

Attached Documents:

Equipment Certificate:

IOPP Certificate:

Validity:

IOPP Tanker:

Validity:

Radio Certificate:

Validity:

Others:

Important Date: (Deadline Date for Survey)

Deficiencies:

Comments:

Ship's History:

A N N E X I V

OPERATIONAL MANUAL TRANSPORT
CANADA

TYPES OF CASUALTIES AND PERTINENT EVIDENCE

The type of information needed to determine the cause of any given casualty depends on the nature of the casualty. Although an experienced Investigating Officer is unlikely to need guidance in the matter, the following checklist is intended to provide a general but not all-inclusive outline of evidence needed, depending on the nature of the casualty.

All Casualties

a. Ship Particulars:

1. Name, official number and Port of Registry.
2. Owner.
3. When and where built.
4. Type of ship.
5. Ship's dimensions.
6. Gross tonnage.
7. Navigational aids.
8. Ship's Log.
9. Inspection certificates, etc.

b. Voyage Particulars:

1. Port and date of departure.
2. Destination.
3. Nature of cargo.
4. Date, place and nature of casualty.
5. Outcome of casualty. (i.e. total or constructive total loss).

c. Crew Particulars:

1. Name, nationality and qualifications of Master.

2. Crew list.
3. Passenger list. (If applicable)
4. Names, birth dates and addresses of dead, injured or missing persons.
5. Names, birth dates, addresses and phone numbers of witnesses.

Collisions

In addition to the information listed above, the following evidence is needed:-

1. General outline of events leading to the collision, from each ship.
2. Relative bearing, course, speed and distance of each ship when first detected by the other.
3. True course and speed when first detected.
4. When, how and by whom was each ship detected by the other (i.e. visually or by radar).
5. Was radar plot kept.
6. Weather and visibility conditions at the time.
7. Compliance with Collision Regulations.
8. Courses, speeds and sound signals made from first "sighting" to moment of collision.
9. Radio-communications between the two ships.
10. Persons on the Bridge.
11. Number of lookouts and where posted.

12. State of watertight doors.
13. Point and angle of impact. (with sketches and photographs)
14. Sketches by witnesses showing relative positions of each ship from first "sighting" to collision.
15. Chart of the area showing position of collision.
16. Names of vessels in the vicinity and assistance rendered.
17. Names of persons killed, injured or missing.
18. Outcome of collision, i.e. degree of damage, fire, loss, etc.
19. Course recorder record.
20. Engine movement book or computer read-out.
21. Distance of how from bridge.

Groundings and Strandings

The reasons for most groundings, to name but a few, are errors in navigation, poor visibility, strong currents, undue reliance on buoys in narrow channels, etc.

Evidences is needed on these points, where applicable, and on the following:

1. General outline of events leading to the grounding.
2. Last reliable position and how obtained.
3. Visibility conditions in the hours preceding and up to the moment of grounding.
4. Courses and speeds maintained in the hour preceding the grounding.
5. Ship's draught.

6. Tide and current information.
7. Radar.
8. Charts in use and date of last correction.
9. Persons on the bridge.
10. Lookouts.
11. Sound signals.
12. Log Book entries.
13. Communications with ships in the vicinity.
14. Date, time and place of grounding.
15. State of tide on grounding.
16. Ship's head on grounding.
17. Name of Pilot, if any.
18. Damage suffered.
19. Soundings, internal and external.
20. Nature of assistance, if any.
21. Whether salvaged or abandoned.
22. Pollution.
23. Equipment or machinery failure.

A N N E X V

FORMAT OF MARINE CASUALTY REPORTS

ANNEX (4)

FORMAT OF MARINE CASUALTY REPORTS

NOTES

- 1 Administrations are urged to complete this form in respect of casualties to ships of not less than 1600 gross tonnage which are a total loss, including a constructive loss, and to ships of not less than 500 gross tonnage involving loss of life.
- 2 The information to complete the form should be based on:
 - the report of a court or board of formal investigation; or
 - the report of a preliminary investigation carried out by the Administration; or
 - the report of an informal fact finding investigation carried out by the Administration.
- 3 When possible, a copy of the report mentioned in paragraph 2 or an extract thereof should accompany this form.
- 4 If sufficient space is not available then reference may be made to the report of an additional sheet of paper should be used.

Name of ship	Distinctive No. or letters	Type of ship	Year of build	Flag	Gross Tonnage

Date of Casualty Day Month Year	Time of Casualty (local time)	Type of Casualty (i.e. fire, foundered, etc.)	Name(s) and Flag(s) of other ships involved

Name of place or sea where casualty occurred	Latitude and longitude of casualty	State of sea, weather and visibility at time of casualty

Port last sailed from and date of sailing	Port of destination	C a r g o	
		Status (i.e. loaded, part loaded, ballast)	General description of cargoe(s)

Brief account of the sequence of events of the casualty:

Brief account of any assistance given to the ship and/or rescue services provided:

Brief account of the extent of the damage to the ship:

Will the ship be

- Repaired*
- Salvaged*
- Broken up*
- Not removed*

Number of lives lost

Did pollution occur? (From subject ship only)

Crew:

Passengers:

Other:

Yes/No*

Pollutant

Amount, if known

Cause of casualty (ascertained/probable)**	Code for casualty*	Code for cause*	
		Primary	Secondary

Indicate the form of investigation carried out (see note 2)

State principal findings:

State action taken:

State findings affecting international regulations:

Is a further investigation to be carried out? Yes/No**	If yes further information should be forwarded in due course
--	--

Signature and title of person providing information

Date

On behalf of

* See page 6

** Delete as appropriate

MSC 52/17
ANNEX 7
Page 6

CLASSIFICATION FOR CAUSE

Notes:

1 Where incident involves more than one type of casualty then entry should indicate sequence, i.e. a collision leading to fire and foundering should read "1-5-3".

2 Enter primary cause and, when appropriate, any secondary cause.

CODES FOR TYPE OF CASUALTY

- 1 Collision and Contacts
- 2 Strandings and Groundings
- 3 Floodings and Foundering
- 4 Lists and Capsizings
- 5 Fires and Explosions
- 6 Hull and Machinery Damage
- 7 Other
- 8 Unknown

CODES FOR CAUSE OF CASUALTY

Personnel faults

- 01: Failure to comply with Regulations
- 02: Failure to obtain ship's position or course
- 03: Improper watchkeeping or lookout
- 04: Improper maintenance
- 05: Incorrect operation
- 06: Failure to secure closing arrangements
- 07: Improper stowage of cargo
- 08: Improper loading or overloading
- 09: Incorrect ballasting
- 10: Negligence
- 11: Illicit smoking or use of smoking materials or uncontrolled use of heat source
- 12: Inadequate training
- 13: Unable to fulfil duties

- 19: Other

Failure of ship, its machinery or equipment

- 20: Propulsion machinery
- 21: Essential ancillary machinery
- 22: Steering gear
- 23: Navigational or communication equipment
- 24: Closing arrangements
- 25: Structural failure
- 26: Hull fittings or shaft seals
- 27: Subdivision arrangements
- 28: Bilge pumping
- 29: Spontaneous combustion
- 30: Component failure

- 39: Other

Not related to ship

- 40: Force of wind, tide or current
- 41: Failure to provide instructions, charts or nautical publications
- 42: Failure of aids to navigation
- 43: Uncharted obstruction
- 44: Weather damage
- 45: Faulty design or construction
- 46: Blame (in whole or part) attributed to third party
- 47: Arson

- 59: Other

- 99: Unknown

ANNEX 8
SERIOUS CASUALTIES FOR 198.
BY CATEGORY OF CASUALTY

Category of casualty \ Type	Passenger Ships	General Cargo Ships (includes container and ore/bulk)	Bulk/Oil Ships (includes ore/oil)	Tankers (includes chemical tankers)	Liquefied Gas Carriers	Others	Totals
Collisions and Contacts							
Strandings and Groundings							
Floodings and Foundering							
Lists and Capsizings							
Fires and Explosions							
Hull and Machinery Damage							
Others							
Unknown							
Totals							
Ships at Risk							
Casualty Rate							

A N N E X VI

BASIC CASUALTY DATA

CAS 1 FORM - BASIC CASUALTY DATA

CASUALTY NO	REFERENCE YEAR	CASUALTY FILE REFERENCE NO	NAME OF VESSEL
ZBC			

OFFICIAL NO OF VESSEL	CASUALTY TYPE INITIAL / SUBSEQUENT	DATE OF INITIAL CASUALTY (DD / MM / YY)	TIME OF INITIAL CASUALTY (24 hr Clock)	STATE OF TIME (L, G, B, C or S)	CASUALTY AREA	VESSEL REGISTERED IN UK? Enter Y or N. If UK owned but un-registered enter Z
A		/ /				

LATITUDE OF CASUALTY (deg N/S)	LONGITUDE OF CASUALTY (deg E/W)	AT TIME OF CASUALTY TRUE COURSE STEERED (in degrees)	SPEED (knots)	WAS VESSEL ABANDONED? (Y, P or N)	IF ANOTHER VESSEL WERE INVOLVED IN CASUALTY ENTER THAT CASUALTY REF NO
B					

CATEGORY OF CASUALTY	TYPE OF SEA/WATERWAY WHERE CASUALTY OCCURED	AT CASUALTY TIME WHAT WAS THE STATE OF VESSELS MOVEMENTS
Immediate total loss of vessel Subsequent total loss of vessel Constructive total loss Sunk but raised, repaired & returned for service Major damage requiring rebuilding Major damage requiring extensive repairs Minor or no damage but involving loss of life Minor damage, requiring minor repairs Minor casualty-survey only required Unknown	Non tidal inland waters (rivers etc) Tidal rivers & estuaries Ports, harbours & approaches Coastal waters (up to 25 mis from coast) Open sea (25+ miles from coast) Unknown Not applicable	In repair, dry docked or slipped Stationary in port (berthed, moored) Stationary at anchor (harbour, roadstead) Stationary at anchor (off coast at sea) Stationary drifting Moving prior to docking, berthing Moving prior to undocking, unberthing Moving in port approaches On passage Working at sea/in port Under tow Unknown
WIE WDE CTL SRS MRB MER LOL MIR SOR X	1 2 3 4 5 X Z	IR IP AH AA DR PD PU PA GP WS UT X

C		
---	--	--

LIGHT CONDITIONS	CONDITIONS OF VISIBILITY m = metres k = kilometres	WEATHER CONDITIONS
Unknown Halflight Twilight Full daylight Full night Night with moon Not applicable	Less than 50m 50-200m 201-500m 501-1000m 1001-2000m 2-4k	4.1-10k 10.1-29k 20.1-50k 50k+ Unknown Not applicable
X 1 2 3 4 5 Z	0 1 2 3 4 5	6 7 8 9 X Z
		Fine and clear Cloudy Overcast Dust, sand, snowstorm Fog or mist Drizzle or rain Snow Sleet Icing Thunderstorms Unknown
		0 1 2 3 4 5 6 7 8 9 X

D		
---	--	--

WIND DIRECTION	WIND FORCE	SEA AND SWELL STATE	DISTRESS MADE KNOWN BY
Enter NW or SW etc (max of two characters) Z = not applicable X = unknown	Calm Light air Light breeze Gentle breeze Moderate breeze Fresh breeze Strong breeze Near gale	Figures in brackets refer to height in feet Calm (0) Calm rippled (0- $\frac{1}{2}$) Smooth ($\frac{1}{2}$ - $1\frac{1}{2}$) Slight ($1\frac{1}{2}$ -4) Moderate (4-8) Rough (8-13)	Radio (Unknown) Radio VHF type Radio WT Radio RT Pyrotechnics Sound signals Other means Unknown None Visual sighting
	0 Gale 1 Strong gale 2 Storm 3 Violent storm 4 Hurricane 5 Not applicable 6 Unknown 7	8 9 10 11 12 Z X	6 7 8 9 Z X
		0 Very rough (13-20) 1 High (20-30) 2 Very high (30-45) 3 Phenomenal (45+) 4 Not applicable 5 Unknown	RF RV RW RT PY SS OM X NO VS

E		
---	--	--

If unknown enter X, if none leave blank

LIVES LOST AND CIRCUMSTANCES

INJURIES AND CIRCUMSTANCES

	In casualty on ship	During abandonment	On rescue vessel	Died of Injuries ashore	In casualty on ship	During abandonment
Crew	F					
Passengers	G					
Others	H					

RESCUE EFFECTED BY:

- Vessels own LSA
- lifeboats
- liferafts
- lifejackets
- Buoyant apparatus
- Others
- Other vessels LSA
- aircraft liferaft
- helicopter pick up
- land equipment
- lifeboats (RNLI)
- other means
- Directly by other vessel
- Not applicable
- Unknown
- Towed

- A
- B
- C
- D
- E
- F
- G
- H
- I
- J
- K
- L
- Z
- X
- M

PURPOSE OF VOYAGE

- Not applicable (stationary at time)
- Pleasure
- Commercial (other than fishing)
- Fishing
- Ship trials
- Delivery voyage
- Rescue
- Other
- Unknown

- Z
- PR
- CO
- FI
- ST
- DV
- RE
- OT
- X

WERE DANGEROUS GOODS BEING CARRIED?

Enter Y, N or X

VESSEL'S LOAD STATE

- Overloaded
- In ballast
- Unloading/discharging
- Loading
- Fully loaded
- Loaded (extent unknown)
- Partially loaded
- Unknown
- Not applicable

- OL
- IB
- UL
- LO
- FL
- LU
- PL
- X
- Z

Enter up to three of the above codes eg. FM or AGI

I				
---	--	--	--	--

TYPE OF CARGO CARRIED

Enter up to three main types of cargo above and below deck separating each type with a comma eg A1,B4,C9 or A1,B4

NO. ON BOARD AT TIME OF CASUALTY

Enter X if unknown, zero if none

WAS THE VESSEL ON AUTO-STEERING?

BELOW DECK

ABOVE DECK

CREW

PASSENGERS

OTHERS

Y, N or X

J						
---	--	--	--	--	--	--

CASUALTY EFFECT ON VESSEL'S EFFICIENCY

- None
- Able to proceed under reduced power
- Unable to proceed under own power
- Unknown
- Not applicable

- N
- A
- R
- C
- X

ANY LIFE-RAFTS USED?

Y, N or X

LAST PORT OF CALL

Enter full or abbreviated name

If unknown leave blank

NEXT PORT OF CALL

Enter full or abbreviated name

If unknown leave blank

CASUALTY TYPE FORM COMPLETED?

Y or N

K					
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B I B L I O G R A P H Y

1. International Conference on Ship Safety and Marine Surveying,
Malmö - Sweden, 8-9 May, 1986.
2. Study on Marine Casualty Investigations in Canada, Bernard
M. Deschênes, Q.C.
3. Course on Maritime Administration by Professor P.S. Vanchiswar.
4. Course on Maritime Administration by Professor Aage Os.
5. Paris Memorandum of Understanding on Port State Control.
6. International Maritime Conventions:
 - SOLAS 74/78.
 - MARPOL 73.
 - STCW 78.
 - Loadline Convention 66.
 - ILO No. 147 Convention.