

Marine Accident and Casualty Investigation Boards

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Marine Accident and Casualty Investigation Boards

Reports, data bases, statistics, trends, lessons learned

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1. General

Introduction

The purpose of waterborne accident and incident investigations is the prevention of accidents. It is not the purpose of waterborne accident investigation or the investigation report to attribute blame or to assign responsibility. The use of the reports for reasons other than improvement of safety should be avoided.

The practises and rules for shipping have developed over catastrophic accidents. "Knowledge gained and lessons learned" form the background for marine accident investigations, based on the obligation to report the results of accident investigations.

International background of marine accident investigations

The main legal basis for marine accident investigations lies in the United Nations' Convention on the Law of the Sea (UNCLOS). In Article 94, it states that it is the responsibility of the Flag State to institute an "inquiry" (investigation) into accidents on the high seas. Accidents occurring elsewhere such as in territorial waters or inland waters are not covered by UNCLOS

nor is any reference made on the investigation aims. In addition to UNCLOS ,however, the conventions on Safety of Life At Sea (SOLAS) and Marine Pollution (MARPOL) touch on certain regulations connected with accident investigations.

Article 2 of UNCLOS establishes the right of Coastal States to investigate the cause of any marine casualty occurring within their territorial seas (12miles) which might pose a risk to life or to the environment, involve the coastal State's search and rescue authorities, or otherwise affect the coastal State.

It has to be clearly stated that the Code "invites" states to take certain actions and "invites" them to cooperation but it is not a legally binding instrument. It merely "invites" member states to take measures to give effect to the Code and "requests" flag states to conduct investigations into all serious and very serious accidents. The obligations of the Flag State to properly oversee the operation of ships flying its flag and the rights of the Coastal States to exercise oversight of safety and pollution control over its coastal waters have led to tensions between flag and coastal states.

The statutory obligation to investigate marine casualties is in all main IMO/ILO Conventions. IMO Code A.849(20) as amended by A.884(21) for the investigation of marine casualties and incidents is widely applied although it is only a recommendation until now. An IMO working group was established to review the Code and suggest solutions for the implementation of a mandatory code and an appropriate format in 2005. The new draft Code of International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident (Casualty Investigation Code), to replace the existing Code for the investigation of marine casualties and incidents, and the SOLAS amendments will be submitted to the Maritime Safety Committee (MSC) at its 84th Session in mid 2008, for adoption. The IMO Code A.849(20) as amended by A.884(21) has been applied in two EU Directives - 1999/35/EU and 2002/59/EU.

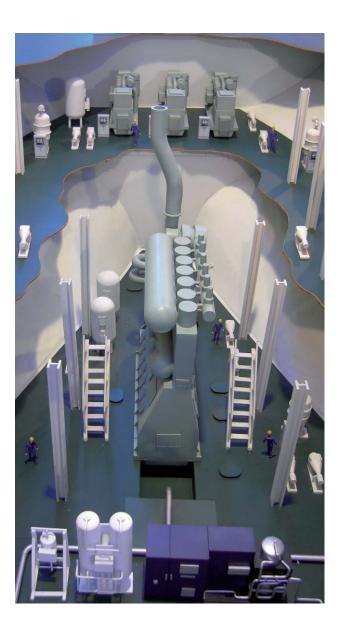
Definitions

Marine Incident

means abnormal events occurring in the course of operation of sea-going ships and likely to cause danger to man, ships, architectural work or the environment.

Marine Accident

means one or more than one marine undesired incident which results in personal injury, damage or loss. Accidents include loss of life or major injury to any person on board, the actual or presumed loss of a ship, her abandonment or material damage to her, collision or grounding, disablement, and also material damage caused by a ship. It is the duty of every master or skipper to examine any accident occurring to, or on board, his ship.



Casualties

The Codes for marine accident and casualty investigations distinguish between "very serious" and "serious" casualties. Very serious casualty means a casualty to a ship which involves the total loss of the ship, loss of life or severe pollution.

Serious casualty means a casualty which does not qualify as a very serious casualty and which involves:

- fire, explosion, grounding, contact, heavy weather damage, ice damage, hull cracking or suspected hull defect resulting in
- structural damage rendering the ship unseaworthy such as penetration of the hull underwater, immobilization of main engines, extensive accommodation damage etc., or
- pollution and/or
- breakdown necessitating towage or shore assistance.

Hazardous Incident (near miss)

A hazardous incident or near miss is an accident that nearly occurs in connection with the operation of ship.

Investigation

means the determination of conditions, circumstances, causes or causal possibilities of marine accidents with a view to effective measures to prevent and limit similar accidents.

Ranking of fire in maritime casualties

Fire ranks second in maritime casualties after stranding and grounding according to a survey of total loss accidents in merchant shipping over a period of 25 years. Fire aboard commercial vessels and in particular in the engine room, is leading quite often to total loss of the ship and/or her cargo, and to loss of life. Fire together with stranding, represent more than 50 percent of all marine casualties. Fire plus explosion adds up to 25 percent of the casualties.

2. Internatinal Organisations



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Shipping transcends national boundaries and therefore needs to be addressed through an international forum.

IMO is a special agency of the United Nations with 162 Member States and 3 Associated Members. Ship safety standards are developed and set, at the international level, by the International Maritime Organisation. They are subsequently implemented and enforced by both national maritime authorities and, under delegated powers, by Recognised Organisations (RO).

IMO is primarily a legislative body and a forum where members can discuss their views on the state of international shipping practices. The agreements the IMO creates take three forms:

- conventions
- codes
- · resolutions

Normally, resolutions are recommendations to Member States, while conventions, once ratified by a member, are legally binding. Codes fall somewhere in between these two distinctions. Resolutions may also be created to supplement provisions for treaties.

IMO has 162 voting member states from the various regions of the world and has granted consultative status to 61 non-governmental organisations. This status allows IMO to obtain outside expert opinion and allows NGOs (environmental and industry organisations) to express their viewpoints to the members.

The top ten contributing nations to the IMO budget are:

- Panama
- Liberia
- Bahamas
- Greece
- Malta
- Japan
- United Kingdom
- · United States
- Cyprus
- Norway

All of these nations as a consequence play a significant role in IMO treaty development. Greece, Malta and Cyprus are the European Member States with the closest access to the IMO while the European Commission has an observer status.

Effective facilitation of the negotiating groups is essential and imperative. It can be hoped for that more scientists and industry representatives will be brought to the negotiating table when the goal of a treaty is formulated and when parties are initially discussing their positions.

Code for the Investigation of marine casualties and incidents A.849(20) and A.884(21) (MSC 68/23/add.I, annex 8)

This Code recognises that under IMO Conventions each Flag State has a duty to conduct an investigation of any casualty occurring to any ships when it judges that such an investigation may assist in determining what changes in the present regulations may be desirable or if such a casualty has produced a major deleterious effect upon the environment. This Code also takes into account that under the provisions of UNCLOS Article 94, a Flag State shall cause an inquiry to be held, by or before a suitably qualified person, into certain casualties or incidents of navigation on the high seas.

However, the Code also recognises that where a casualty occurs within the territorial sea or internal waters of a State, that State has a right, under UNCLOS Article 2, to investigate the cause of any such casualty which might pose a risk to life or the environment, involve the coastal State's search and rescue authorities, or other wise affect the coastal State.

Aim

The aim of the Code is to promote a common approach to the safety investigation of marine casualties and incidents, and also promote co-operation between States in establishing the circumstances relevant to the casualty and the causal factors, publicising the causes of the casualty and making appropriate safety recommendations. The result of a common approach and co-operation will be to aid and to enhance the safety of seafarers and passengers, and the protection of the marine environment. In achieving these aims, this Code recognises the need for mutual respect for national rules and practises and puts particular emphasis upon co-operation.

Objective

The objective of any marine casualty investigation is to prevent such casualties in the future. Investigations identify the circumstances of the casualty under investigation and establish the causes and contributing factors, by gathering and analysing information and drawing conclusions.

Application

This Code applies, as far as national laws allow, to the investigation of marine casualties or incidents where either one or more interested States have a substantial interest in a marine casualty involving a vessel under their jurisdiction.

Responsibility

Flag States are encouraged to ensure investigations into all casualties occurring to its ships are undertaken. All cases of serious and very serious casualties should be investigated.

Where a marine casualty or incident occurs within the territorial sea of a State, recognising the obligations of that State to its citizens and the legal status of the territorial sea under the provisions of UNCLOS and also recognising the duties placed on a Flag State, the Flag and Coastal States should co-operate to the maximum extent possible and mutually agree which State should take the role of lead investigating State.

On 1st of July 2002, a comprehensive new set of requirements for fire protection, fire detection and fire extinction on board ships entered into force as a new revised Chapter II-2 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, incorporating technological advances in fire detection and extinction as well as lessons learned from fire incidents over the years. The new structure of SOLAS Chapters II-2 focuses on the "fire scenario process"

rather than on ship type, as the previous SOLAS Chapter II-2 was structured. The regulations are designed to ensure that fires are first of all prevented from occurring; secondly, that fires are rapidly detected; and thirdly, that any fire is contained and extinguished.

The FSS Fire Safety Systems Code has 15 Chapters dealing with issues like:

- Fire extinguishers (Chapter 4)
- Fixed gas fire-extinguishing (Chapter 5)
- Fixed foam fire extinguishing systems (Chapter 6)
- Fixed pressure water-spraying and water-mist-fire-extinguishing systems (Chapter 7)
- Automatic sprinkler, fire detection and fire alarm (Chapter 8)
- Fixed fire detection and fire alarm (Chapter 9)
- Fixed emergency fire (Chapter 12)
- Fixed deck foam (Chapter 14)
- Inert gas systems (Chapter 15)

IMO's Sub-Committee on Flag State Implementation (FSI) agreed draft amendments to the Code for the implementation of mandatory IMO instruments (Resolution A.973(24) in its session in June 2007. The Code forms the basis of the Voluntary IMO Member State Audit Scheme, in order to provide Member States to be audited, as well as auditors, with the auditing standard, which is subject to a process of continuous review and updating.

The objectives of the Voluntary IMO Member State Audit Scheme are designated to help promote maritime safety and environmental protection by assessing how effectively Member States (MS) implement and enforce relevant IMO Convention standards, and by providing them with feedback and advice on their current performance. The Audit Scheme is based on the standards contained in the Code for the implementation of mandatory IMO instruments which stated that, under the provisions of the United Nations Convention on the Law of the Sea 1982 (UNCLOS) and of IMO Conventions, Administrations are responsible for promulgating laws and regulations and for taking all other steps which may be necessary to give these instruments full and complete effect so as to ensure the safety of life at sea and the protection of the marine environment.

Investigation reports and lessons learned documents are submitted to the IMO Casualty Analysis Working Group. These reports are grouped in categories, condensed by a Correspondent Group and published every year. The categories are:

- Collision
- · Machinery damage
- · Stranding and grounding
- · Damages to ship or equipment
- Contact
- · Capsizing or listing
- · Fire or explosion
- Missing
- · Hull failure of watertight doors etc.
- Other

Data on Maritime Casualties and Incidents are defined by circulars MSC-MEP.3/Circ.1. and are accessible to IMO Member States and other administrative users via username and password on the GISIS Global Integrated Information System only. http://gisis.imo.org



MAIFA

Marine Accident Investigators Forum Asia

URL: www.maifa.info

Every marine accident investigation organization within the Asian region is eligible to become a member of the MAIFA.



MAIIF Maritime Accident Investigatiors' International Forum

URL: www.maiif.net

MAIIF is an international non-profit organisation dedicated to the advancement of maritime safety and the prevention of maritime pollution through the exchange of ideas, experiences and information acquired in marine accident investigations. Its purpose is to promote and improve marine accident investigation, and to foster cooperation and communication between marine accident investigators.

3. National Accident and Casualty Investigation Boards



Australia



ATSB Australian Transport Safety Bureau c/o Australian Government Department of Transport

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Australia

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Kit Filor, Deputy Director kit.filor@atsb.gov.au

The ATSB is an operationally independent body within the Australian Government of Transport and Regional Services and is Australia's prime agency for transport safety investigations. The Bureau's Marine Investigation Unit (MIU) performs its functions in accordance with the provisions of the Transport Safety Investigating Act 2003 (TSI Act). Section 7 of the TSI Act indicates that the object of the Act is to improve transport safety through, among other things, independent investigations of transport accidents and incidents and the making of safety action statements and recommendations that draw on the results of these investigations. The ATSB was formed on 1 July 1999 and is a founding member of MAIIF. It liaises with overseas investigation bodies, mainly through the Marine Investigator's International Forum, to promote international co-operation in accident investigation.

The ATSB computerised database helps to identify and analyse trends or patterns of accidents and incidents that might become apparent over the time. All ATSB reports are sent to the International Maritime Organisation IMO. A Marine Incident Analysis Safety Information System (MIASIS) has been developed by ATSB.



Belgium



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Canada





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The TSB is an independent agency, created by an Act of Parliament - the Canadian Transportation Accident Investigation and Safety Board Act - that came into force on the 29th of March 1990. Its sole aim is the advancement of transportation safety. The agency publishes annual summaries of selected statistics on marine occurrences, based on a live database. The TSB statistic system is an information management system.

Division for Investigation of Maritime Accidents

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The Division investigates accidents at sea in Danish waters and accidents on Danish ships all over the world. The Division for Investigation of Maritime Accidents must be informed immediately when a Danish merchant or fishing vessel has been involved in a collision, grounding, fire, explosion, leakage, list, capsizing or other situations with severe material damage.



Estonia



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Finland



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The statutory basis of accident investigation in Finland is the Accident Investigation Act (373/1985) and the Accident Investigation Decree (79/1996).

The investigations are carried out in accordance with the principles stated in the IMO Code for the investigation of marine casualties and accidents, agreed upon in resolutions A.849(20) and A.884(21) as well as EU Directive 1999/35/EC on a system of mandatory surveys for the safe operation of regular ro-ro ferry and high speed passenger craft services.

In the reporting of accident investigation, the Accident Investigation Board follows an established form and the investigations are published either in separate publications or in the publication series "waterborne traffic accidents and incidents".



France



BEAmer

Bureau d'enquêtes sur les événements de mer

Ministère de l'Ecologie, du Dévelopement et de l'Aménagement

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Marine casualty investigations are carried out by the Bureau Enquêtes Accidents- BEAmer – in the department of transport, since 1997, as an administrative part of the General Inspectorate for maritime affairs the BEAmer is working independently of any governmental agencies responsible for safety at sea and following national, European (1999/35/EC Directive) or international (IMO Resolution A849/20: Code for the investigation of marine casualties and incidents).



France



EQUASIS

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Contact: Jaques Benard

David Jones

EQUASIS European Quality Shipping Information System initially was developed by the European Commission and the French Maritime Administration. It is a free to use information system that collects and publishes safety related data concerning vessels, their owners and operators. The current version of the Equasis database contains information supplied by providers like

- Port State Control Regimes, like the US Coast Guard, the Paris Memorandum of Understanding, the Tokyo Memorandum of Understanding
- Private Inspections
- IACS Members plus Indian Register
- International Group of P&I Clubs
- others like EMSA, Intertanko, Intercargo, Lloyd's Register Fairplay

Data available contain the name of the vessel, type of vessel, year of construction, flag, IMO number, gross

tonnage, name and address of the registered owner, name and address of the operator, certificate information (classification society), P&I information and hull underwriter details, as well as list of violations, the date, location and nature of violation. Much of this information is more useful to maritime attorneys in a variety of ways as it is rather based on Port State Controls PSC than on accident investigations, but it is a very useful tool to identify ships in operation.

Equasis is developed and hosted by the French Ministry for Transport and maintained by the Sous Direction des Systèmes d'Information SDSI equasis@equipement.gouv.fr



Germany



BSU

Bundesstelle fuer Seeunfalluntersuchung

Bundesoberbehoerde im Geschaeftsbereich des Bundesministeriums fuer Verkehr, Bau- und Stadtentwicklung (BMVBS)

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The statutory basis of accident investigation in territorial waters of Germany and on ships flying the German flag all over the world is the so called SUG Seeunfall-Untersuchungs-Gesetz. Germany has no centralised data base on marine accidents for the time being. The Ministry has established a project team for the formation of such a data base which will be called the SUDaBa Schiffsunfalldatenbank.



Greece

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Hong Kong



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Contact: Roger Tupper, Director of Marine

Y K Stephen Li Lee Kai-leung

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The Marine Department, headed by the Director Marine, is responsible for all navigational matters in Hong Kong and the safety of all classes and types of vessels. It provides a wide spectrum of services among others marine accident investigation. The Marine Accident Investigation and Shipping Security Policy Branch of the Department conducts investigations to establish the causes and circumstances under which marine accidents occurred, with a view to identifying any inadequacies on the design, construction and maintenance of vessels and their equipment, operational practices and procedures, competence of shipboard staff etc., and any improvement measures which can be implemented to avoid recurrence.

Recommendations arising out of these investigations are given serious consideration by the department and implemented if they can help improve safety standards.



Ireland



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Iceland



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Italy



CCISM Commissione Centrale di Indagine sui Sinistri Marittimi

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Japan



MAIA

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The High Marine Accidents Inquiry Agency of Japan consists of two organisations: one is the Commissioner's Office that conducts investigations and the other is the Inquiry Agency that judges causes of accidents through the Marine Inquiry Court and makes its conclusions clear by judgement. There are eight MAIA offices in the main parts of Japan.

With its mission to "identify causes of marine accidents and contribute to the prevention of such accidents", the Marine Accident Inquiry Agency fulfils its responsibilities as part of the national transportation safety policy of the Ministry of Land, Infrastructure and Transport. Whose ultimate goal is to ensure safety, by analyzing the various aspects of the causes for marine accidents identified through investigations and inquiries, compiling such information and proposing measures to prevent future accidents.

The marine accident inquiry system in Japan was established by "the Mariner's Disciplinary Punishment Law" of 1896, and has been succeeded by "the Marine Accidents Inquiry Law" of 1947. The system as such has been in force for more than 100 years.

MAIA is engaging itself in

- identifying and understanding causes of marine accidents with the goal to develop prevention strategies
- gaining further knowledge, new skills and technologies related to marine safety
- cooperating with other maritime countries and international organizations
- communication with the nationals regarding such measures and results



Latvia



DIMA

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EEAI

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Netherlands



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The Dutch Safety Board is a statutorily established autonomous agency, responsible for independent and integral investigations of the causes and possible consequences of serious accidents at sea.



New Zealand



MNZ Maritime New Zealand

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Commission - TAIC

The MNZ is governed by an independent Board appointed by the Governor General on the recommendations of the Ministry of Transport. The five-member Board directs the overall strategy, and appoints the Director for MNZ who manages the organisation and has independent statutory powers under the Maritime Transport Act 1994. MNZ is – among others – investigating and analysing the causes of maritime accidents.



Norway



AIBN

Accident Investigation Board Norway

c/o Statens Havarikommissjon for Transport

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Norway, homeland of DNV Det Norske Veritas and the second largest European ship owner country had a century-old safety act also called the Seaworthiness Act dating back to 1903! In order to bring the Scandinavian country into line with international and EU regulations, Norway is in the process of setting up a Ship Safety Act which has passed Storting the National Assembly in February 2007, which might have significant implications not only for the classification of ships. The Ship Safety Act has a strong emphasis on safety management, replacing the existing concept of seaworthiness in an environment of a totally new approach to unlimited liability on the basis of the EU's "fault" concept and the ISM Code.

Section 71 of the Norwegian Ship Safety Act entitles marine insurers to share information which is directly relevant to the safety of the ships they insure with other insurers, classification societies, international marine insurance and maritime organisations, or Norwegian and foreign maritime authorities.

AIBN will be operative in 2008



People's Republic of China



MSA Maritime Safety Administration P.R.C.

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People's Republic of China

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Hu Xi-chen, Captain

The Maritime Safety Administration of the People's Republic of China was established in October 1998 upon approval by State Council. China MSA is formed by consolidating the Bureau of Harbour Superintendency of the People's Republic of China (also known as the Maritime Safety Administration of the Ministry of Communications) and the Register of Shipping of the People's Republic of China.



Philippines

MARINA Maritime Industry Authority

c/o Department of Transport and Communication

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Manila

Philippines

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Administrator

The Philippine's Maritime Authority is an agency of the Philippine government under the Department of Transportation and Communications responsible for integrating the development, promotion and regulation of the maritime industry in the Philippines. It was created on the 1st of June, 1974 with the issuance of Presidential Decree No. 474 to integrate the development, promotion and regulation of the maritime industry in the country.

The regulatory function of the MARINA was increased with issuance of EO No. 1011 which abolished the Board of Transport and transferred the quasi-judicial functions pertaining to water transportation to the MARINA. On 30 January, 1987, EO No. 125 was issued reorganizing the Department of Transportation and Communications. The powers and functions of the department and the agencies under its umbrella were redefined and have further strengthened the responsibility of the MARINA to the industry.



Republic of Korea



KMST

Korean Maritime Safety Tribunal c/o Ministry of Maritime Affairs and Fisheries

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The Korean Maritime Safety Tribunal has been committed to ensuring safety at sea by investigating all types of marine accidents and determining their circumstances and causes. The KMST is a subsidiary body of the Ministry of Maritime Affairs and Fisheries (MOMAF) under the Marine Accident Investigation and Tribunal Act. It plays a leading role in the Marine Accident Investigators' International Forum (MAIIF) and the Marine Accident Investigators' Forum Asia (MAIFA). From 2002 to 2004 more than 120 accidents were reported caused by fire or explosion.

In addition to the MOMAF Ministry of Maritime Affairs and Fisheries building in Seoul, the KMST has 4 District Maritime Safety Tribunal (MST) offices in Busan, Incheon, Mokpo and Donghae.

www.momaf.go.kr



South Africa



SAMSA South African Maritime Safety Authority

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Hatfield 0028

Republic of South Africa

Telephone: + 27 12 366 2600 Facsimile: + 27 12 366 2601

E-Mail: marinenotices@samsa.org.za

URL: www.samsa.org.za

Contact: Saleem Modak, Captain

smodak@samsa.org.za



Spain

Comision permanente de investigación de siniestros maritimos

c/ Ruiz de Alacron, 1 SP-28071 Madrid

Spain

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E-Mail:

URL: www

Contact:

SAMSA is carrying out accident investigations according to the *South African Maritime Safety Authority Act (Act 5 of 1988)*.



Sweden



SHK

Statens Haverikommission
Swedish Accident Investigation Board

Teknologgatan 8C

S-102 29 Stockholm

Sweden

Telephone: + 46 8 555 017 70
Facsimile: + 46 8 555 017 90
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Contact: Åsa Kastman Henmann, Director General

Per Lindemalm

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The Swedish Accident Investigation Board is multimodal - it investigates also military accidents.

SHK is carrying out investigations according to *The Accident Investigation Act* (SFS 1990:712) but has no statistics about accidents and incidents. Information might be obtained from the Swedish Maritime Administration Sjöfartsverket

www.sjofartsverket.se

The Swedich Maritime Administration has set up a near-miss database with the assistance of the ship owners which is called Insjö Database. It is based on anonymus reporting and its contents are available via internet.



Lloyd's Register driven accident and casualty investigation boards

The most comprehensive data bases on marine accident and casualty investigation in the industry were and are those based on the profound and global information from the leading classification society in the world – Lloyd's Register, UK.

Let us have a look back into the history of Lloyd's Register driven casualty reporting services:

Lloyd's Register and Informa plc. were partners in a joint venture from 1986 until December 2001 known as LMIS Lloyd's Maritime Information Service. When Lloyd's Register left LMIS and started a new venture with Fairplay on January 1, 2002 under the name of Lloyd's Register - Fairplay Ltd. the situation on the market changed completely. Former LMIS was rebranded into Lloyd's MIU Marine Investigation Unit under the ownership of Informa and Lloyd's Register - Fairplay became a potential provider of vessel information and world casualty statistics based on the databases of Lloyd's Register.

Since 1952, all marine casualties reported to Lloyd's Register were categorized by incident type (stranding/grounding, collision/contact, fires/explosions, machinery trouble, weather damage, etc.) to facilitate analysis.

Lloyd's is the registered trade mark of the society incorporated by the Lloyd's Act 1871 by the name of Lloyd's.



Lloyd's MIU Marine Investigation Unit

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E-Mail: enquiries@lloydsmiu.com

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Contact: Warren Pringle, Key Account Manager

warren.pringle@lloydsmiu.com Andrew Luxton, Commercial Sales andrew.luxton@lloydsmiu.com

Lloyd's MIU is the successor to LMIS under the ownership of Informa plc. the leading provider of specialist information and services for the maritime commercial business community. Informa has over 150 offices in more than 40 countries and employs 7.500 staff around the world. www.informa.com

Lloyd's MIU claims to provide the most comprehensive website in the maritime intelligence sector with information on:

- ownership, detailed characteristics and casualties of 120.000 vessels
- both real and AIS (Automatic Identification System) movements
- more than 20.000 casualty messages per year
- over 163.000 shipping companies

United Kingdom



Lloyd's Register - Fairplay Ltd.

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United Kingdom

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URL: www.lrfairplay.com
Contact: Malcolm Latarche

Formed from the merger of the Maritime Information Publishing Group of Lloyd's Register and Fairplay Publications Ltd., LRF – Lloyd's Register – Fairplay Ltd. maintains the world's largest and most comprehensive commercial shipping databases with ship movements, characteristics/particulars, ownership, manager, ships on order, new construction, casualties and demolitions of over 140.000 vessels with up to 600 fields of data. The company information holds 170.000 company records covering every aspect of the commercial marine industry.

With a staff of over 130 and a network of offices and agents around the world, Lloyd's Register - Fairplay Ltd. provides very useful information on accidents and casualties including the analysis of accidents and the lessons to be learnt from these.

Lloyd's Register - Fairplay maintains the largest maritime databases covering ships, maritime companies, ports and terminals, plus information on the world order book for merchant ships of 100gt and above, on order and under construction in the world shipyards.

News and data services

World Casualty Statistics

This publication is produced annually and lists all vessels removed from the propelled sea-going merchant fleet, as losses or disposals. Losses are analysed and disposals are categorised. details include the ship, flag, gross tons, year of build, location and a complete summary of the casualty incident suffered, including the fate of the vessel and crew.

Cost: Pound Sterling 260.00.-

Ships

LRF manages the information on the world order book (merchant ships of 100 gt and above on order and under construction in the worlds shipyards), casualty data, ship inspections and detentions, real-time vessel positions, historic vessel movements and photographs.

Sea-web (www.sea-web.com) is the online reference tool combining all ships data into one single application.

Key contents – among others – of this fully searchable data base:

- details of more than 160.000 ships of 100 gt and above, including newbuildings and casualties - PC Register
- up to 500 data fields, including tonnages, class, inspections, detentions, cargo, capacities, gear and machinery details
- complete shipbuilder information
- casualty module with details of more than 100.000 non-serious and serious casualties, as well as total losses providing information on the incident itself, date, location, casualty group, severity and number of crew killed/missing.
- movements module providing extensive real-time ship positions as recorded on AISLive

Key features

- powerful grid tool to analyse search results
- 24 hours access from any internet-enabled PC
- direct link to the Equasis database

Cost: see ISR

ISR Internet Ships Register

www.ships-register.com

ISR provides access to the very latest details on the world's commercial fleet and includes details on all ships over 299 gt, including ships on order and under construction, as well as losses and demolitions. The IRS is sold on an annual subscription basis. There are three levels of service:

- single user
- *company* (a licence for up to five users to concurrently access the system from a single office location
- *corporate* (a licence for larger organisations who wish to have access from multiple locations)

Additional Module Prices	Price	
Single user	£ 1425 / \$ 2700/ € 2100	
Fixtures Module	£ 500 / \$ 975/ € 730	
Casualty Module	£ 850 / \$ 1660/ € 1250	
Movements Module	£ 690 / \$ 1345/ € 995	
Credit Summary Reports Module	£ 850 / \$ 1660/ € 1250	
Five user (Company/Network)	£ 2475 / \$ 4826/ € 3640	
Fixtures Module	£ 750 / \$ 1450/ € 1100	
Casualty Module	£ 1360 / \$ 2650/ € 2000	
Movements Module	£ 1140 / \$ 2225/ € 1700	
Credit Summary Reports Module	£ 1660 / \$ 2500/ € 1850	
Web Service Module		
<1,000 downloads per annum	£ 520 / \$ 910/ € 755	
>1,001 <3,000 downloads p. annum	£ 1040 / \$ 1820/ € 1510	
>3,000 <10,000 downloads p. annum	£ 2080 / \$ 3650/ € 3020	
A download will be counted on each occasion that a single vessel record or a single address record is requested.		

PC Register

The PC Register provides unlimited searching, sorting and reporting capabilities and is supplied with the entire database of the world merchant fleet over 100 gt, including ships on order and under construction. An additional module "Casualties Histories" can be added to the standard PC Register subscription package.

Additional Module Prices	Price
Single user Quarterly	£ 3900 / \$ 7600/ € 5700
Fixtures Module	£ 650 / \$ 1250/ € 960
Detentions Module	£ 650 / \$ 1250/ € 960
Casualty Module	£ 3500 / \$ 6500/ € 5100
Single user Monthly	£ 4450 / \$ 8650/ € 6500
Fixtures Module	£ 650 / \$ 1250/ € 960
Detentions Module	£ 650 / \$ 1250/ € 960
Casualty Module	£ 3500 / \$ 6500/ € 5100
Five user Quarterly	£ 5900 / \$ 11500/ € 8700
Fixtures Module	£ 850 / \$ 1650/ € 1250
Detentions Module	£ 850 / \$ 1650/ € 1250
Casualty Module	£ 5400 / \$ 10000/ € 7900
Five user Monthly	£ 6500 / \$ 12500/ € 9550
Fixtures Module	£ 850 / \$ 1650/ € 1250
Detentions Module	£ 850 / \$ 1650/ € 1250
Casualty Module	£ 5400 / \$ 10000/ € 7900

Register of Ships

Details of 95.000 ships including current and former names, tonnages and dimensions, main and auxiliary engines, call sign, cargo and ship type, registration and classification.

The information is drawn from Lloyd's Register's database – the world's most comprehensive source for maritime data, published since 1764.

Cost: Pound Sterling 995.00.-

Safety at Sea International

www.safetyatsea.net

This magazine delivers safety news and information with a mix of regular sections and special features. Its core areas are navigation, communications, lifesaving and rescue, fire fighting and prevention, training and education, and the human element. This publication keeps its readers up-to-date with legislation, safety standards, maritime safety and security, technical and market developments, ongoing research projects, conference and exhibition reports, the latest equipment and services.

IMO Ship Identification Number Scheme

LRF manages this scheme on behalf of IMO and is the sole authority with responsibility for assigning and validating these numbers which are issued from the global maritime database maintained by LRF and consist of a unique seven digit number.





MAIB Marine Accident Investigation Branch

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The Marine Accident Investigation Branch (MAIB) examines and investigates all types of marine accidents to or on board UK ships worldwide, and other ships in UK territorial waters. Located in Southampton, the MAIB is a separate branch within the Department for Transport (DfT). It is not a part of the Maritime and Coastguard Agency (MCA).

The powers of MAIB inspectors, and the framework for reporting and investigating accidents, are set out in the Merchant Shipping Act 1995.

MAIB maintains a computerised database of reportable marine accidents. Besides providing an accessible source of information, the database can be analysed to identify accident trends.

In addition to that MAIB publishes a Safety Digest which draws the attention of the marine community to some of the lessons arising from investigations into recent accidents and incidents.





MCA Maritime and Coastguard Agency

Spring Place

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Southampton, Hampshire SO15 1EG

United Kingdom

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Contact:

The Agency is responsible throughout the UK for implementing the Government's maritime safety policy. The Agency's Research priority areas are:

- · Accident Prevention
- · Vessel Safety
- Navigation Safety
- Environmental Protection
- · Seafarer/Fisherman Safety
- · Search & Rescue

The major projects in the field of Accident Prevention are:

- Development of guidance for the mitigation of human error in automated ship-borne maritime systems
- UK Incident Database Gap Analysis (with an option for a European Extension)

MCA covers less the commercial side of shipping in accident prevention and deals more with coastal safety issues. All the responsibility for accident investigation lies with MAIB.



USA



USCG United States Coast Guard Headquarters (G-PCAt)

Office of Investigations and Analysis

2100-2nd Street South West Washington DC 20593-0001

USA

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U.S. law, specifically Title 46, U.S. Code, Chapter 61 (Reporting Marine Casualties), Chapter 63 (Investigating Marine Casualties), and Chapter 77 (Suspension and Revocation) provide the core concepts governing the Coast Guard's responsibilities for Marine Casualties and Personnel Actions.

The Investigation Division of the U.S. Coast Guard carries out all the statutorily mandated investigations of commercial vessel casualties and reports of violation that require a determination for apparent cause and culpability (fault). The findings of the U.S. Coast Guard Marine Casualty Investigations are used to create safety recommendations to prevent future casualties.

Marine Casualty reporting requirements are outlined in Title 46, Code of Federal Regulations, Part 4 (46CFR4).

The Online Incident Investigation Report of the U.S. Coast Guard provides information regarding maritime incidents investigated under Part D of Title 46 of the U.S. Code of Federal Regulations. These published reports are limited to reportable marine casualties, as defined in Section 4.05 of Title 46 of the CFR. The IIR website offers several options to search for reports and retrieve listings of incidents that match the specific search criteria. However, due to the complexity and volume of data involved the report initially contains only top level data. Upon request the option to add a time line and detail data can be provided.

The U.S. Coast Guard and the Maritime Administration (MARAD) have signed a memorandum of agreement to work together with industry to develop and implement a practical, voluntary, confidential international maritime information safety system. The system would receive, analyze, and disseminate information about unsafe occurrences. These non-accidents or problem events are an untapped source of data that can serve as leading indicators on safety in the maritime community and can provide the information necessary to prevent accidents before they happen rather than wait for them to occur and then addressing prevention.

The goals of the effort are to reduce the frequency of marine casualties, the extent of injuries and property damage including environmental damage, and to create a safer and more efficient shipping transportation system and mariner work environment. The U.S. Coast Guard distinguishes between Marine Board Reports, Miscellaneous Reports and Investigation Activity Reports.

4. European Union





Council of the European Union

URL: www.europa.eu

The European Commission

URL: www.ec.europa.eu

European Parliament

URL: www.europarl.europa.eu

The situation regarding marine accident investigations in Europe is not satisfactory. Only a few states have independent organisations for the investigation of marine accidents and individual national legislation quite often prevents effective co-operation. Therefore all Member States should be mandatorily required to establish arrangements for independent marine accident investigation, and to report the results of their accident investigation. Unlike other modes of transport, the marine sector is extremely reluctant to embrace the tools necessary for effective accident investigation, often for economic reasons.

The Commission of the European Communities has submitted a Proposal for a Directive of the European Parliament and Council establishing the fundamental principles governing the investigation of accidents in the maritime transport sector.COM(2005) 590 final in 2006.

In justifying the proposal the Commission

- observes that, while some Member States carry out accident investigations in a thorough and systematic way, others investigate accidents in a superficial and non-systematic manner
- considers that the lack of mandatory guidelines on accident investigation is a serious shortcoming in terms of Community maritime safety policy, contrasting strikingly with the situation in air transport, and
- points out that, while the IMO has adopted a Code for the Investigation of Marine accidents, it is not mandatory and some flag states choose not to abide by the Code.

This Proposal was prepared with the assistance of EMSA.



EMSA European Maritime Safety Agency

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Contact: Willem de Ruiter, Executive Director

James Wood, Assistant to the Director

Manuela Tomassini (former Transport Attaché, Permanent Representation of

Italy to the European Union)

Emilio Martín Bauza,

UNIT F Accident Investigations

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Recent concerns (*Erika* and *Prestige*) within the EU, that ship safety standards were not being effectively administered by those with the authority to do so, have contributed to the establishment of EMSA. The set up of EMSA – under Regulation No. 1406/2002/EC – is one of the key EU level initiatives aimed at improving the situation. EMSA is a "baby" of DG TREN and was established in 2003. The organisation moved from Brussels to Lisbon in 2006.

There is a wide divergence of approaches to the investigation of accidents and incidents at sea among EU Member States. While some already have fully independent accident investigation organisations, others do not.

Fully comprehensive data on accidents and casualties in EU waterborne transport are however scarcely available and hardly accessible at the moment. Not all countries keep a systematic publicly available record of the safety situation in their territorial waters or economic zones and the databases that exist are highly incompatible. Reporting at IMO level is incomplete. The best source of data is LMIS Lloyd's Maritime Information Service. It does not, for example, include inland waterway transport, and it does not indicate the cause for an accident.

A future EU database on accidents and serious incidents will have to include cargo vessels of less than 500 gross tons, fishing vessels and vessels which are solely used for national traffic. These types of vessels, which are outside the scope of the IMO database, have a relatively high accident involvement compared to other vessels. Better information on the type and causes of accidents and incidents in these categories would allow a systematic analysis of the major problems and countermeasures in these categories.

EMSA is presently engaged in building a data base of EU approved equipment under the Council Directive 96/98/EC also called the "MED Marine Equipment Directive" or "Wheelmark Directive" and another data base on maritime accidents and casualties (EMCIP).

Annex A.1 of the MED lists 5 (statutory) equipment categories that require assistance of a Notified Body (NB) - now Recognized Organisation (RO) - for conformity assessment:

- Life-saving Appliances SOLAS 74 Safety of Life at Sea
- Marine Pollution
 MARPOL Marine Pollution Prevention
- Fire Protection
 SOLAS Safety of Life at Sea
 FTP Fire Test Procedures Code
 FSS Fire Safety Systems Code
- Navigation Equipment SOLAS 74 Safety of Life at Sea
- Radio Communication Equipment SOLAS 74 Safety of Life at Sea

Current MED certification for ships flying the European flag was at the beginning of 2007 close to 20.500 entries. Fire Protection with 7788 entries and 38 per cent on top, followed by Life-saving Appliances with 34, Navigation 21 Marine Pollution Prevention 6 and Radio Communication 1 per cent.

CTG CMAI Consultative Technical Group for Cooperation in Marine Accidents Investigations

This CTG was set up to facilitate exchanges of information, cooperation and assistance between the investigative bodies in the Member States and EMSA and has become a permanent working platform for EMSA, the Commission and the Member States to develop technical solutions in the field of marine accident investigation on issues of common interest. The Technical Group shall serve as a working platform in the field of marine accident investigation within EMSA's mandate to Regulation (EC) No. 1406/2002.

EMCIP European Marine Casualty Information Platform

Preparations for the launch of EMCIP started at EMSA's 2^{nd} Workshop on Marine Casualty Investigation in Brussels on $15/16^{th}$ November 2005.

Within the European Union, Council Directive 1999/35/EC provides for a legal right for any substantially interested state to participate or cooperate in investigations of marine accidents.

EMAIIF European Maritime Accident Investigators' International Forum

Finland was hosting the first meeting of EMAIIF in March 2005 with participation of 28 representatives from 18 countries, the MAIIF secretariat and the EU's accident investigation team of experts.

European Maritime Authorities

see also a separate AMEM publication European Maritime Authorities which you can download from www.amem.at

5. Glossary of Abbreviations and Acronyms

AIBF	Accident Investigation Board, Finland	MOMAF	Ministry of Maritime Affaires and Fisheries	
AIBN	Accident Investigation Board, Norway	MARAD	Maritime Administration	
AIS	Automatic Identification System	MARINA	Maritime Industry Authority	
ATSB	Australian Transport Safety Bureau	MARPOL	Marine Pollution	
BEAmer	Bureau d'enquêtes sur les evenements de mer	MCA	Marine and Coastguard Agency	
BMVBS Bundesministerium fuer Verkehr, Bau- und	MCIB	Marine Casualty Investigation Board		
	Stadtentwicklung	MCIC	Maritime Casualties Investigation Council	
BSU	Bundesstelle fuer Seeunfalluntersuchung	MED	Marine Equipment Directive	
CCISM	Commissione Centrale di Indagine sui Sinistri Marittimi	MEP	Marine Environment Protection Committee	
CFR	Code of Federal Regulation	MIASTS	MIASTS Marine Incident Analysis Safety Information System	
CTG CMAI	Consultative Technical Group for Cooperation	MIU	Marine Investigation Unit	
	in Marine Accidents Investigations	MNZ	Maritime New Zealand	
DfT	Department for Transport	MS	Member State	
DIMA	Division for Investigation of Marine Accidents	MSA	Maritime Safety Administration	
DNV	Det Norske Veritas	MSC	Maritime Safety Committee	
DSB	Dutch Safety Board	MST	Maritime Safety Tribunal	
EC	European Council	NB	Notified Body	
EEAI L'entité Enquêtes techniques relatives aux accidents et incidents graves	PSC	Port State Control		
EMAIIF European Maritime Accident Investigators International Forum	European Maritime Accident Investigators	RO	Recognised Organisation	
	RSO	Recognised Safety Organisation		
EMCIP European Marine Casualty Information	SAMSA	South African Maritime Safety Authority		
	Platform	SDSI	Sous Direction des Systèmes d'Information	
EMSA	European Maritime Safety Agency	SFS	Svenska författningssamling	
EQUASIS	European Quality Shipping Information System	SHK	Statens Haverikommission	
EU	European Union	SHT	Statens Havari Kommisjon for Transport	
FSI	Flag State Implementation	SOLAS	Safety of Life at Sea	
FSS	Fire Safety System	SUDaBa	Schiffsunfall Daten Bank	
FTP	Fire Test Procedures	UK	United Kingdom	
GISIS	Global Integrated Information System	UNCLOS	United Nations Convention of the Law of the Sea	
IIR	Incident Investigation Report	USCG	United States Coast Guard	
ILO	International Labour Organisation			
IMAIB	Icelandic Marine Accident Investigation Board			
IMO	International Maritime Organisation			
ISM	International Safety Management	Impressum:		
ISR	Internet Ships Register			
KMST	Korean Maritime Safety Tribunal	© 2008 by J. R. Kuehmayer Austrian Marine Equipment Manufacturers c/o J. R. Kuehmayer · Marxergasse 27/8 A-1030 Vienna, AUSTRIA, Europe e-mail: j.kuehmayer@amem.at		
LRF	Lloyd's Register Fairplay			
LMIS	Lloyd's Maritime Information Service			
MAIB	Marine Accident Investigation Branch			

www.amem.at

Grafic-Design, Production:

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www.furian.at

Marine Accident Investigators' International

Maritime Accident Investigators' International

MAIFA

MAIIF

Forum Asia

Forum