

# MARINE CASUALTIES DATA RECORDING

## 1.-Introduction

The conditions and the volume of to-day's maritime traffic require the development of Vessels' Traffic Management Systems and Maritime Traffic Information Systems.

This is more so when it applies to special sea areas as the Mediterranean. Marine casualties unfortunately do occur.

To improve the situation requires the best possible knowledge of the particulars of the casualty, the conditions under which it took place, the equipment which possibly failed, the involvement of the human element, the losses suffered, the damage which was inflicted to the environment, the means and method applied to provide assistance etc.

It is well known that adequate information on casualties is often not available or, whenever available, it cannot always be considered as accurate or complete. This is due to various limitations of national and international departments, which are assigned to do this job.

In addition varying standards of recording and non uniformity of terminology confuse the presentation of casualty reports, when and if these become available.

As the development of a European Regional Traffic Management and Information System (VTMIS) is under way, the necessity of collecting and recording information on the casualties incurring in the area in question, is of paramount importance.

In view of the above the application of certain standards on the collection of information and data, the method of inquiry, the reporting format, the use of common terminology etc are necessary.

Of course, if the suggestions are found reasonable for application in our area, there is no reason why they could not be applied internationally.

## 2.- Sources of casualty information

First it must be determined what is a casualty, its type and magnitude.

The various Organisations and Authorities use different definitions, which may sometimes lead to a confusion, instead of common understanding.

The casualty types may be listed as :

- Collision ship to ship.
- Contact, ship to ship or ship to quay or ship to floating or underwater object.
- Grounding or stranding, ship to ground.
- Foundering or sinking of the ship.
- Flooding of ship, which may or may not have sunk.
- Not under command, when the vessel lost her ability to proceed by her own means.
- Machinery damage.
- Equipment failure.

- Fire.
- Explosion.

It is clear that some of the above terms should be properly determined, possibly some of them unified and all well understood and accepted by the parties concerned.

Further, standardisation of the types and sizes of ships which are recorded would also be useful.

A list of ship types is proposed hereafter :

- Passenger/Cruise ships
- Passenger-car ferries, long distance
- Passenger-car ferries, short distance-enclosed areas
- Car ferries
- General dry cargo ships
- Dry bulk carriers
- Container ships
- Refrigerated cargo ships
- Oil tankers
- O.B.O.
- L.N.G. tankers
- L.P.G. tankers
- Chemical tankers
- Hydrofoils, A.C.V. & other fast craft (non pleasure craft)
- Fishing vessels
- Tug/supply vessels
- Pleasure crafts
- Other

Regarding sizes these could be grouped, for statistical purposes, in the following manner, GRT :

- Below 99
- 100 to 499
- 500 to 999
- 1000 to 1499
- 1500 to 4999
- 5000 to 9999
- 10000 and over

When a casualty occurs the following are usually the parties which may be involved or they may require and collect information and/or subsequently make available such information :

- (a) Search and rescue Authorities.
- (b) Port and Government Authorities.
- (c) Underwriters.
- (d) P + I Clubs.
- (e) Classification Societies.

- (f) Cargo operators.  
and of course
- (g) Owners.

Leaving for the moment (a) and (b) out, the remaining parties may be viewed with varied reluctance as to the quality of the information they may retain and/or may make available. In fact their information may not be available at all or it may be subject to commercial considerations.

Regarding (a) & (b), these parties should, in theory, be free of the misgivings of the other parties quoted. Unfortunately this is not appear to be the case either.

Government Authorities are subject to national legislation, to political issues and national prestige and thus, from country to country, the procedures followed and the quality of information available varies tremendously, not to say that such information may even not be disclosed at all.

It is interesting to note that foreign ships sailing within a S.A.R. area of another state may avoid, in many cases, to report their casualty, even in conditions of distress. Thus quite a number of accidents remain totally unreported, with the exception of course of the cases where such reporting is mandatory.

Nearly-missed casualties are not reported or recorded.

### **3.- Usefulness and importance of proper data**

The proper casualty data, which may be accumulated over the years, may be very useful for various purposes, such as :

- to determine the level of performance of the ship's crew and through this to deduce possible ameliorations in education and training.
- to establish if conditions and procedures on board need to be changed.
- to implement maintenance procedures of hull, machinery and equipment.
- to improve design characteristics of ships and their equipment.
- to ameliorate land lights and signals, marking of coastlines, underwater obstructions etc..
- to monitor the traffic of the ships' movements in areas which present a high casualty rate.

Standing at this latter point, the importance of correct casualty data cannot but be stressed sufficiently. Furthermore, the standardisation of terms and

certain minimum procedures and information to be included in a casualty report should also be emphasised.

The importance of including data on nearly missed accidents must be stressed as well.

The unification of casualty reporting will greatly facilitate concerted action between Government Authorities and other Organisations involved.

It is appreciated that there will be discrepancies due to different judgements, misinformation and other reasons during a casualty investigation and reporting. It is believed though that this will account for a relatively small proportion of the total information available and that it would not distort the true image too much.

A specimen of a complete casualty report, in "check list" format, useful for the purposes quoted above, is shown in the Appendix, which is follows hereafter.

It may appear to some that the proposed format is too elaborate and lengthy or that, for the purposes of a VTMISS, the information recorded is superfluous.

On the other hand this "check list" may be considered incomplete in certain aspects, specially due to the evolution of technology, and therefore it may be necessary to improve it as necessary.

It is believed however that all casualties, irrespective of their type and magnitude, as well as those which were nearly-missed, would be of interest to a VTMISS as well as to all those, studying deeper for means and ways in reducing the causes of accidents.

#### **4.- Proposals**

Having discussed the above, we wish to formulate the following proposals regarding casualty data gathering procedures, which could be applicable to all in general. conditions and possibilities.

(a) Casualties should be reported by all ships to Official Authorities of either the flag or coastal state. For specific areas, like coastal areas or enclosed seas and passages, the reporting should be made mandatory towards the coastal state.

(b) The terminology to be used for determining the type and magnitude of casualties should be agreed upon and made uniform as far as possible.

(c) The method of inquiry should cover at least certain predetermined targets; the use of expert surveyors will thus be required. Of course for complicated cases special considerations will apply.

(d) The method of summary reporting should contain at least certain minimum information, expressed in internationally agreed terms and format. These reports should be made available in public and they should appear within a specified maximum period of time after the occurrence of the related accident, even if only with preliminary information.

(e) Nearly-missed accidents should also be reported as per paragraph (a).

The implications of such a proposal are fully realised by the Author,

specially regarding items (c), (d) & (e) above. However it is believed that an effort must be made towards the direction proposed and a satisfactory solution agreed by all those concerned, as described in the beginning of this paper.

Commercial considerations should not impair such an effort. Disputes and second opinions may always exist; in the cases where they are of vital interest they may even form part of an additional casualty report in the form of an appendix.

## **CASUALTY REPORT**

### **- Particulars of ship involved**

name  
nationality  
port & No of registry  
call sign  
type  
year built  
size in GT  
size in DWT  
displacement  
length overall  
length between pp  
breadth  
depth  
maximum draft  
nominal speed  
machinery controlled from bridge  
machinery controlled from control room  
type of propulsion engines  
propulsion power  
number & type of propellers  
other propelling systems  
number of rudders  
thrusters forward  
thrusters aft

navigating equipment  
communication equipment  
under deck watertight doors  
number & type of lifeboats & certified number of persons carried  
davit launched liferafts & certified number of persons carried  
certified number of persons in other lifesaving appliances  
marine evacuation systems  
actual draft forward & aft  
type(s) of cargo transported  
quantity of cargo(s) transported  
last departed: port, ATD  
next destination: port, ETA  
number of crew when departing

officers  
crew  
number of passengers when departing

**- if ship at anchor**

how many anchors & shackles used for each  
moored:  
at jetty  
at berth  
at mooring buoys  
VTS area

**- if ship laid up or under repair**

if crew (or part) on board  
if power available  
if gas freed  
if fire fighting means operational  
if other ships alongside (both or one side)  
VTS area

**- if ship in motion**

speed of ship at time of accident  
heading of vessel at time of accident  
engine setting at time of accident  
pilot on board  
VTS area  
tugs assisting vessel, number, type & where fastened

If more than one ships are involved in the same accident, then a separate form should be filled for each ship. If more than one casualties are involved, one being the result or the consequence of the other then a brief description and the sequence of events should be given.

**- Casualty particulars**

type of accident

date and time of accident  
location of accident, area and/or latitude and longitude  
location of accident and type of navigable water  
port  
river/canal  
fairway  
restricted water/port approach  
coastal waters  
high seas

weather conditions  
day/night  
visibility in miles  
precipitation (rain/snow)  
wind force  
wind direction

overcast  
temperature  
tidal stream speed  
tidal stream direction  
waves significant height  
waves significant period  
water depth  
distance to nearest port or place of refuge  
stated cause of accident

**- Collision only**

identification of other ship(s) or craft in collision, name & particulars as known  
unidentified ship or craft

type of encounter  
meeting  
overtaking  
crossing  
angle of encounter  
privileged or stand on vessel  
both give way

information to be combined with data sheet of ship(s), as above.....

**- Groundings only**

type of grounding  
out of bounds fairway  
shoal  
type of bottom  
sand  
mud

rocky

type of stranding

on beach

on rocky coast

on muddy coast (dikes)

**- Contacts only**

type of obstacle

quay

bridge pier

dolphins

buoy

floating debris

wreck

platform

submerged offshore installation

container

other submerged unidentified obstacle

**- Fire/explosion only**

location of fire/explosion

in accommodation

in engine room

in boiler room (if separate)

in pump room

in cargo holds

in cargo tanks

in ballast tanks

in bunker tanks

in cofferdams

in auxiliary spaces

others

**- Floodings only**

location of flooding

in accommodation

in engine room

in boiler room (if separate)

in pump room

in cargo holds

in cargo tanks

in ballast tanks

in bunker tanks

in cofferdams

in auxiliary spaces

others

ingress of water from  
under waterline  
deck openings & hatches  
side openings  
superstructures & houses

**- Not under command only**

due to failure of  
main engine(s)  
propeller(s) & shaft(s)  
electric power  
other

**- Damage particulars and losses**

crew  
remaining on board, number and rank  
saved by  
lifeboats, liferafts  
salvage ships  
helicopters

passengers

remaining on board (males/females/children)

saved by  
lifeboats, liferafts  
salvage ships  
helicopters

human losses  
number of crew killed/lost at sea  
number of crew injured  
number of passengers killed/lost at sea  
number of passengers injured

description of damage of ship's hull  
location of damage  
penetration, if any  
size of damage  
description of watertight compartments affected by ingress of water, of  
ship's deckhouses or superstructure  
under deck water tight doors position, open/closed  
location of damage  
penetration, if any  
size of damage

of ship's engine and machinery  
propelling engine(s) damaged

main boiler(s) damaged  
auxiliary boiler(s) damaged  
auxiliary power equipment damaged  
other

of ship's cargo handling facilities

cargo cranes, derricks, masts  
pumps  
winches

type(s) of cargo lost or unusable due to the casualty  
quantity (ies) of each type of cargo lost or unusable due to the casualty  
type(s) of cargo lost or unusable voluntarily to save ship

of lifesaving and emergency equipment

lifeboats and launching equipment  
life rafts and launching equipment  
marine evacuation system  
lights and signals  
fire fighting

of communication

**- Pollution particulars**

description of pollution and estimated quantity  
solid cargo

crude oil  
oil products  
chemicals  
mineral oils  
dangerous, toxic substances  
nuclear waste  
fuel and lubricants  
others

tons of cargo which are lost from each hold, tank or compartment  
measures taken by the ship

**- Equipment in use at the time of accident**

gyrocompass  
echosounder  
radio finder  
radar  
auto pilot  
track pilot  
rudder & indicator  
GPS  
other electronic positioning equipment  
electronic chart  
speed log

machinery controls on bridge and E.R. unattended  
cargo tanks inerted  
cargo tanks being cleaned

**- Persons in watch at time of accident**

bridge  
engine room  
pump room  
radio room

**- Relevant times of the accident and rescue operations**

time of  
accident  
accident location estimated & actual  
message to outside world of accident  
message received by SAR organisation  
message received by salvage organisation  
rescue operation accepted  
of rescue operation denied by master  
rescue operation launched

ship's lifesaving equipment used & their location  
number & location of rescue crafts  
time lifeboats/lifesaving equipment launched  
time of salvage operation launched  
time that fire fighting commenced by ship's means  
time taken to put out the fire by ship's means  
time of refloating operations started & ended

by ship's means

by external assistance

time that actions commenced to repair damage by ship's means

time that actions completed to repair damage by ship's means

salvage craft

type of rescue craft

type of boats/aircraft/helicopters

number

time of arrival at casualty scene of air and/or sea rescue

time of reception message by vessels in vicinity

time of arrival of vessels at casualty scene

description of the services rendered

SAR (characteristics, country (ies), by sea/air etc)

salvage

other vessels

time of completion of services

SAR  
salvage  
other vessels/aircraft

success of services rendered  
number of survivors rescued  
not injured  
injured

description of pollution fighting  
ecological damage effected  
fighting starting date  
fighting ending date  
means  
results

**- Fate of ship**

proceeded  
by own means  
escorted by  
towed  
repaired  
by own means at sea  
temporarily  
permanently  
repaired in port  
temporarily  
permanently  
beached  
location  
date and time

refloated, repaired  
date and time  
survived, constructional loss  
sunk  
location  
date and time  
abandoned  
location  
date and time

**- Verbal description of casualty and its cause by captain/ pilot/  
navigator**

**- Established cause of casualty and responsibility, if any**

**- Estimated magnitude of casualty, in ...(currency), if possible**

human injuries

damage to ship

damage to cargo

rescue operations

pollution

cannot be estimated

human losses