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**IALA Guideline No. ####**

**On**

**Marine casualty /incident reporting and recording, including near miss situations as it relates to VTS**

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***AISM***Association Internationale de Signalisation Maritime ***IALA***

International Association of Marine Aids to Navigation and Lighthouse Authorities

10, rue des Gaudines

78100 Saint Germain en Laye, France

Telephone: +33 1 34 51 70 01 Fax: +33 1 34 51 82 05

e-mail: [contact@iala-aism.org](mailto:contact@iala-aism.org) Internet: [www.iala-aism.org](http://www.iala-aism.org)



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Marine casualty/incident reporting and recording, including near miss situations as it relates to VTS

# Introduction

TBD…. To Take from task registration.

## Objectives

The objectives of the Guideline are:

* to provide guidance and information to competent VTS and other authorities on the development and establishment of harmonized casualty/incident reporting processes and needed instruments;
* to enhance safety culture within a VTS area;
* to provide guidance on the way to identify, to analyze and report near-miss if the VTS authority decides to do so;
* to collect material to improve the VTS management based on the return of experience from the analyze of casualty/incident and near-miss.

## Background

The process of identifying and reporting marine casualties has been clearly established by IMO (IMO Res.A.884 and MSC Res.255). This process could be enlarged to marine incident and near-misses. Casualties are often the accumulation of minor incidents or near-misses. Then, we can take the chance to learn from the experience of incident and near-misses. This is a long-term process, but patient work collects fruit and the analysis of incidents and near-misses could help a coast State in reviewing its safety of navigation infrastructures or regulations. Analysing and reporting of incidents and near-misses is already implemented by ICAO. Reporting culture is the first step to implement a Safety culture. The ultimate goal is to learn from incidents using a just culture rather than to appropriate blame.

# Definitions and acronyms

From the perspective of safety management, there is a danger in concentrating on the difference between marine casualties and incidents using definitions that may be arbitrary and limiting. Many incidents and near-misses occur every day which may or may not be reported to the investigation authority but which come close to being marine casualties – often exposing significant risks. Since there is no injury, or little or no damage, such incidents or near-misses might not be investigated. This is unfortunate because the investigation of an incident or near-miss may yield better results for hazard identification than the investigation of a marine casualty. The difference between a marine casualty and a marine incident or a near-miss may simply be an element of chance. Indeed, a marine incident or a near-miss may be thought of as an undesired event that under slightly different circumstances could have resulted in harm to people or damage to property and thus would have been classified as a marine casualty.

Meanwhile, for the development and understanding of this Guideline, it is necessary to clarify the differences between a marine casualty, a marine incident and a near-miss.

**A marine casualty** means, as defined in MSC.255 (84) known as Casualty Investigation Code:

an event, or a sequence of events, that has resulted in any of the following which has occurred directly in connection with the operations of a ship:

* the death of, or serious injury to, a person;
* the loss of a person from a ship;
* the loss, presumed loss or abandonment of a ship;
* material damage to a ship;
* the stranding or disabling of a ship, or the involvement of a ship in a collision;
* material damage to marine infrastructure external to a ship, that could seriously endanger the safety of the ship, another ship or an individual; or severe damage to the environment, or the potential for severe damage to the environment, brought about by the damage of a ship or ships.
* **A marine incident** means, as defined in MSC.255 (84):

an event, or sequence of events, other than a marine casualty, which has occurred directly in connection with the operations of a ship that endangered, or, if not corrected, would endanger the safety of the ship, its occupants or any other person or the environment.

* **Near-miss means**, as defined in MSC-MEPC.7/Circ.7 Guidance on near-miss reporting:

a sequence of events and/or conditions that could have resulted in loss. This loss was prevented only by a fortuitous break in the chain of events and/or conditions. The potential loss could be human injury, environmental damage, or negative business impact (e.g., repair or replacement costs, scheduling delays, contract violations, loss of reputation). Some general examples of a near-miss help to illustrate this definition:

.1 Any event that leads to the implementation of an emergency procedure, plan or response and thus prevents a loss. For example, a collision is narrowly avoided; or a crew member double checks a valve and discovers a wrong pressure reading on the supply side.

.2 Any event where an unexpected condition could lead to an adverse consequence, but which does not occur. For example, a person moves from a location immediately before a crane unexpectedly drops a load of cargo there; or a ship finds itself off-course in normally shallow waters but does not ground because of an unusual high-spring tide.

.3 Any dangerous, or hazardous situation or condition, that is not discovered until after the danger has passed. For example, a vessel safely departs a port of call and discovers several hours into the voyage that the ship’s radio was not tuned to the Harbour Master’s radio frequency; or it is discovered that ECDIS display’s scale does not match the scale, projection, or orientation of the chart and radar images.

Near-miss could include near grounding, near collisions, near-striking.

The above definitions are resumed in the following figure :



In order to differentiate a marine casualty, a marine incident and a near-miss, a first approach is an increase of damages from a normal situation towards a marine casualty as indicated in the figure below:



A second approach consists to clarify the differences between a marine incident and a near-miss.

A marine **incident** is an unexpected event with low influence (unlike the marine casualty which has strong) or small event in itself but likely to have serious consequences. There may be no damage or at least few damages in an incident.

A **near-miss** is an unplanned event that did not result in injury, illness, or damage, but had the potential to do so. Only a fortunate break in the chain of events prevented an injury, fatality or damage. There is no damage in a near-miss.

In the point of view of the VTS, there is a limit (CPA and TCPA for instance) to be decided (depending from the VTS area and VTS sensors) where a near-miss can occurred.



It should be understood that the limit set by one VTS is different from another VTS. In term of Quality management of the VTS, this limit could be measured, analysed and improved after some time and a number of near-misses recorded.

Extra definitions areproposedfor the proper understanding of this guideline:

* **Close-quarters situation**, proposition based on near-miss definition above: a sequence of events and/or conditions between different vessels that could result in a collision between vessels.
* **Collision definitions -** to be provided later

**[Collision**: an interaction between two or more vessels at sea. It should be kept in mind that a collision between vessels does not lead necessarily to a direct contact between them. In some situation, the water displaced by a vessel can generate an accident on others vessels in the vicinity, hence this is considered as a collision. In others situations, the contact could be with a ship equipment or tow such as fishing gears, dredging gear, cable line, towing line or tow.]

* **Grounding** : TBD
* **Striking** : TBD
* **VTS Record,** where this definition has been taken from? – document, stating result and providing information of situation observed and activity performed.
* **Vessel**, as defined by COLREGs 72, rule 3(a), « includes every description of watercraft, including non-displacement craft, WIG craft and seaplanes, used or capable of being used as a means of transportation on water ».

# Background

- Q1: Which area to be considered ?

VTS area, declared by the VTS authority, is considered to report incidents.

-Q2: Which ships to be reported

All vessels according to the vessel definition given in definition section.

- Who is responsible and for what TBD

-What types of events should be reported TBD

-Which authorities TBD

**Q: To whom VTS reports may be addressed?**

VTS casualty/incident reports can be addressed to the following organizations in accordance with national rules and regulations:

* + Competent Authority
  + Port Authority
  + VTS Authority
  + Adjacent VTS
  + Port State Control Authority (PSC)
  + Marine Safety Investigation Authority
  + Law Enforcement Authority
  + Flag State Maritime Authority
  + Shipping Company
  + Class society delivering the ISM certification on behalf of the flag State
  + Maritime Rescue and Coordination Centre (MRCC)
  + International Maritime Organization/Agreement (e.g. EMSA, PMOU, etc.)
  + Pollution Monitoring and Response Centre

# Considerations on Casualty/Incidents reports

**4.1. Constraints**

* Legal
* VTS Authority responsibility level
* Lack of situational awareness
* Technical
* Administrative,
* Organisational
* Mandatory or Voluntary

**4.2. Management of abnormal situations (recognition and recording)**

The correct assessment of the situation by VTSO is fundamental for the actions to be taken for preventing casualties or reducing navigational risks. For these purposes VTS authority should determine safe criteria for responsible area. This criteria is to be used for decision support tools. Refer to IALA Guideline No.1110 “Use of Decision Support Tools for VTS personnel”.

From a viewpoint of a VTSO, the identification of an anomalous behaviour depends on the capability of the VTS (sensors such as radar, AIS, DF, CCTV, etc) and the VTS area (weather conditions, traffic density, visibility, etc).

The VTS system should have capability to detect, monitor and record anomalous behaviour for evolving traffic situation.

The procedures to identify anomalous behaviour should be integrated as routine procedures in VTS Centre according the IALA Recommendation V-127.

There are two ways to identify anomalous behaviour:

* from mariners
* from VTS operators with support of VTS technical means

The decision support tool or dynamic risk assessment tool could be useful to enhance the capability of VTSO to identify more efficiently the anomalous behaviour.

If anomalous behaviour is identified, an intervention from VTSO should be given depending on the current and the possible evolvement of this behaviour.

Typical algorithm of incident recognition and reporting by VTS is shown on the flowchart, given in Annex 1 (“*VTS Maritime Casualty/Incident recognition and reporting flowchart”)*.

### **Required technical ability of VTS for data recording**

It is essential that VTS must have ability to record and store all relevant information regarding recognized incident/accident situations, including traffic picture, VHF communications, VTS operator actions, etc..

Technical means of VTS should be in line with relevant technical requirements to ensure proper data recording and storage. VTS data exchange system can also be used for automated report generation and forwarding.

### **Collection of evidences**

There are different evidences a VTS operator can collect from the VTS recording system.

A print picture of the VTS system display is the first evidence of a traffic event. This picture can be consolidated with the past track following positions of ships. The layout obtained gives a clear vision of the ships manoeuvring.

Radio VHF recordings are also interesting evidences for the mate on duty or the master confirms the situation was not fully taken into account.

# Conditions for harmonized implementation of reporting processes

* TBD

# Content of reports

* TBD

|  |  |
| --- | --- |
| **#** | **Type of Reports** |
| **1** | Incident / Accident reports related to the safety and seaworthiness of the ship |
| **2** | Incident / Accident reports related to environmental damage (pollution) |
| **3** | Incident / Accident reports related to loss of objects (containers, cargo...) |
| **4** | Incident / Accident reports related to rule infringement (COLREGs, Ship reporting systems, VTS rules...) |
| **5** | Incident reports related to near-miss situation |
| **6** | Incident report related to waste management by the ship |
| **7** | Incident report related to the presence of banned ships |

# REPORTING PROCESSES

* Casualty reporting (including pollution)
* Near-miss and incidents reporting

# benefits of Casualty/Incidents Reports

* Enhancement of navigation safety in general
* Prevention of accidents in future

Incident reports can be sent to shipping companies to improve their safety culture.

* Proactive protection of marine environment
* Further investigation

Casualty report together with relevant recorded VTS information can be used by Marine Safety Investigation Authority for further investigation (acc. to MSC255(84) Casualty Investigation Code)

* Emergency notification

Operational/Law enforcement authorities may be interested in receiving information regarding incidents/accidents in their area of responsibility as soon as possible

* Evidence (for insurance and/or other stakeholders in interest)
* Lessons learned

Incident reports can serve as a source of experience for all stakeholders (VTS operators, pilots, shipping companies, etc).

* Collection of statistics to identify trends and risks
* Support of risk assessment
* Revision of VTS procedures
* Improvement of a VTS Decision Support Tool

# Best practices

* References to examples

# References

* TBD

# Annexes



*Figure 1. VTS Maritime Casualty/Incident recognition and reporting flowchart*

The text below is taken from new draft of V128. The use of it = TBD

#### **Incident or Accident Management**

Where the VTS is tasked to support Incident Management, Decision Support Tools could help visualize and plan the allocation of resources within the incident area. These tools may help the VTS to organize different teams in order to efficiently cover a given area. This can be done with graphical overlays, identification of the resource locations and historical track display in order to identify the areas already covered during the operation. This can also be achieved by displaying zones unsuitable for navigation and factors influencing the decision processes such as the prevailing and forecast sea currents and wind conditions. It may include assistance for planning and monitoring the operation.

Where forecast data is included, Decision Support Tools may assist the VTSO or other decision makers to assess the probable impact of the incident. Drift modelling and area protection assessments may be performed on a regular basis throughout the incident to ensure that the impact of the incident is minimised.

Incident Management alerts and alarms may all be recorded and formatted into an Incident Management Report such that action can be assessed and confirmed alongside the Emergency Management Plans of the Competent Authority.