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**On**

**VTS Support and interaction with allied and other services in emergency situations, SAR, disaster management, law enforcement and regulatory compliance**

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# introduction

## Preamble

Incidents involving vessels can lead not only to material damage and injuries, but also to loss of life. VTS is able to prevent incidents resulting from vessel traffic and also to support and interact with allied services in SAR and emergency operations. It contributes not only to the improvement of safety and efficiency of navigation, but also to the improvement of safety of life at sea and to the protection of the marine environment and\or the adjacent shore area, worksites and offshore installations from possible adverse effects of maritime traffic.

VTS can also interact with national recognised security organisations, contributing that way to Maritime Security.

IMO Resolution A.857(20) *Guidelines for Vessel Traffic Services* define a Vessel Traffic Service (VTS) as a:

“S*ervice implemented by a Competent Authority, designed to improve the safety and efficiency of vessel traffic and to protect the environment*. *The service should have the capability to interact with the traffic and to respond to traffic situations developing in the VTS area.”*

IMO Resolution A.857(20) states that (concerning VTS operative procedures):

*“External procedures cover interactions with users and allied services. A further distinction should be made between procedures governing the daily routine and procedures governing contingency planning such as search and rescue and environmental protection activities.”*

It also states that:

*“In operating a VTS the VTS authority should ensure that operating procedures for routine and emergency situations are established”.*

Key requirements and guidelines include:

1. IMO Resolution A.857(20) Guidelines for Vessel Traffic Services
2. IALA Vessel Traffic Services Manual (2008)

5. IALA Recommendation V-127 *on Operational Procedures for Vessel Traffic Services.*

## Objective

This Guideline describes the principles and general operational provisions for the interaction and co-operation of a vessel traffic service (VTS) with allied and other services in emergency situations, SAR, disaster management, law enforcement and regulatory compliance.

# Acronyms and Definitions

To assist in the use of these guidelines, the following acronyms and definitions mainly have been used:

|  |  |  |
| --- | --- | --- |
| ***Acronyms*** | | |
| *IALA* | | International Association for Marine Aids to Navigation and Lighthouse Authorities |
| *IMO* | | International Maritime Organization |
| *ISPS* | | International Ship and Port Facility Security (Code) |
| *MSC* | | Maritime Safety Committee (Standing Committee of IMO) |
| *PSC* | | Port State Control |
| *SOLAS* | | International Convention for the Safety of Life at Sea |
| *VTS* | | Vessel Traffic Services |
| *MRCC* | | Maritime Rescue Coordination Centre |
| *PFSP* | | Port Facility Security Plan |
| RSO | | Recognized Security Organisation (ISPS Code) |
|  | | |
| ***General Definitions*** | | |
| *Competent Authority* | | The authority made responsible, in whole or in part, by the Government for safety, including environmental safety, and efficiency of vessel traffic and the protection of the environment.**1** |
| *Allied Services* | | Services actively involved in the safe and efficient passage of the vessel through the VTS area**1** |
| *VTS Authority* | | The authority with responsibility for the management, operation and coordination of the VTS, interaction with participating vessels and the safe and effective provision of the service.**1** |
| *VTS Centre* | | The centre from which the VTS is operated.**1** |
| *VTS Traffic Image* | | The surface picture of vessels and their movements in a VTS area.**1** |
| *Accident* | | An unintended event resulting either in fatality, injury, ship loss or damage, property loss or damage, or environmental damage. |
| *Near-miss* | | 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). **2** |
| *Incident* | | To be defined |
| *VHF* | | Very High Frequency |
| *RDF* | | Radio Direction Finder |
| *DSC* | | Digital Selective Call |
| *CCTV* | | Closed Circuit Television |
| *VTS area* | | The delineated, formally declared service area of the VTS. A VTS area may be subdivided in sub-areas or sectors. |
|  | |  |
|  | |  |
|  | |  |
| **1**  **2** | IMO Resolution A.857(20) Guidelines For Vessel Traffic Service  IMO MSC-MEPC.7/Circ.7 Guidance on near-miss reporting | |
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# GENERAL PROVISIONS

## VTS Role in emergency situations

Co-operation with allied services is related to safety, security and efficiency. It should be a continuous process and action between services needs to be agreed. Procedures for the co-operation between parties should be established.

Incidental co-operation with emergency services, such as Search and Rescue and Pollution Control should be conducted in accordance with pre-established contingency plans in which the procedures for the co-operations are laid down and responsibilities established.

## Responsibility and limitations

The responsibility of the VTS for adequacy of information and recommendations of navigational nature transmitted to Allied Services is limited by the capabilities and errors of the VTS technical aids. The VTS Authority is responsible for incidents occurred due to improper discharge by the VTS personnel of their duties in compliance with the current national legislation.

## Emergency Procedures (all comes from V-127)

The VTS functions according to IALA Recommendation V-127 “Operational Procedures for VTS” are subdivided into internal and external. External Procedures cover procedures that govern the interaction with participating vessels and allied services.

The services of the VTS centre should be maintained during any emergency response.

**3.3.1 Collision, Capsize, Sinking, Grounding, Fire On Vessel, Man Overboard**

Procedures should be established to deal with incidents such as collision, capsize, sinking,

grounding, fire on vessel, ‘man overboard’, which may include the following actions:

* Alert rescue co-ordination centre;
* Inform relevant regulatory authority/ies;
* Inform relevant emergency services;
* Act on local call-out procedures;
* Consider back-up VTS personnel;
* Promulgate information concerning incident to vessels in VTS area;
* Restrict traffic in the area;
* Activate tugs and other support units; and
* Ensure all recording equipment is operating correctly.

**3.3.2 Pollution**

Pollution incident procedures should be established. The following actions may be included:

* Inform relevant regulatory authority/ies;
* Alert relevant environmental authority;
* Assess scale of incident and call in specialist support as appropriate;
* Promulgate information concerning incident to vessels in VTS area; and
* Restrict traffic in the area.

**3.3.3 Places of Refuge**

Places of Refuge procedures should be developed, depending on national requirements and the particular arrangements arising of the implementation of IMO Resolution A.949(23) Guidelines on Places of Refuge for Ships in Need of Assistance.

**3.3.4 Medical Emergency**

Procedures for medical emergencies should be established. Actions may include:

* Inform MRCC rescue co-ordination centre;
* Inform coastal radio station;
* Consider special manoeuvring requirements.

**3.3.5 Vessel Not Under Command (NUC)**

Procedures in the event of a “vessel not under command” should be established. Actions may

include:

* Promulgate information concerning incident to vessels in the VTS area;
* Obtain detailed information about on board situation;
* Maintain communication with vessel;
* Assess vessel’s proximity to danger (danger to vessel itself and other traffic);
* Activate tugs and other support units if appropriate.

**3.3.6 Security incident**

Procedures in the event of a security incident should be established. Procedures should reflect any involvement of the VTS with the PFSP (Port Facility Security Plan) as per the International Ship and Port facility Security Code (ISPS).

**3.3.7 Protest Action**

Procedures should be established to respond to protest action against a vessel transiting the VTS area. Actions may include:

* Alert responsible authority;
* Act on local call-out procedures, including VTS manager;
* Promulgate information concerning incident to vessels in the VTS area;
* Throughout any protest action, the safety of ships and protestors is paramount.

**3.3.8 Natural Disaster**

Natural disaster procedures should be established to deal with situations such as earthquake, tidal wave, fire, exceptional weather conditions. Actions may include:

* Promulgate information to vessels in the VTS area;
* Act on local call-out procedures;
* Inform rescue co-ordination centre

**3.3.9. Coastal accidents**

Coastal accident procedures with allied services should be established to deal with accidents involving swimmers or divers reported directly to VTS by witnesses. Actions may include:

* Inform maritime rescue co-ordination centre (MRCC);
* Inform other competent services.

## List of Allied and other services

The following services are presently recognized:

To be developed.

|  |  |
| --- | --- |
| **Port Authority & SAR** | Port Administration/Harbour Master/Duty Port Controller |
| MRCC |
| Port State Control (PSC) |
| Pollution Control (MARPOL) |
| **international** | Relevant International Organisations or Authorities (i.e. EMSA through SafeSeaNet - IMO) |
| Adjacent VTS and adjacent States Authority |
| **Low enforcement** | Border and Immigration Control |
| Police |
| Recognized Security Organization (RCO) |
| Navy\Military |
| **Others** | Fire-fighting services |
| Medical Assistance \ Ambulance |
| Ship owners\Agents |
| Pilot organisation |
| Tugs / Linesmen |
| Ice-breakers |
| Bay watch |
| Customs |
| AtoN Authority |
| Port Service Providers |
|  |

## VTS Configuration and Communication with Allied Services

Configuration of a VTS Centre should take into account the need to manage incidents and emergencies. Issues that should be addressed include:

* **Additional functional requirements and equipment capabilities**. It might be considered on the feasibility and design stage of VTS implementation that some additional requirements have been met (i.e. VHF D/F, DSC receivers, etc, to be included into set of VTS equipment to support SAR services or additional high-resolution radars and CCTV/thermal-vision sensors to support security services).
* **Workstation(s).** Provision should be made for additional staff to manage the specific incident whilst the VTS continues with the primary traffic management function. This may be in the form of dormant workstations or a plan to reconfigure existing positions to make best use of the facilities available.
* **Planning**. Contingency plans and action sheets should be prepared in close cooperation with allied and other services.
* **Liaison**. Consideration should be given to the links that may be necessary with allied and other services. The integrity of VTS data must be protected and security assessments should be considered. It is necessary to prevent unwanted and unauthorized access to the VTS data, i.e. connection, like the internet, should not be made directly.
* **Training.** Contingency plans should be exercised.

It should be considered that in order to interact with Allied Services in case of emergency different technology and infrastructure could be necessary. The main approach to this matter is the services demanded by allied services should not increase the work load of VTS. The information required may be sent to the authorized addresses via secured lines automatically without causing additional work load to VTS.

In case of radio communication is used it must conform to the IMO Standard Marine Communication Phrases whenever practical. It is important that all voice communication between parties during incident (both VHF or by phone) are recorded.

# Management principles depending on the emergency level

Minor and Major VTS Incidents (classification and evaluation)

Evaluation of incident level (to be reported externally or not)

Ushant Traffic and Port of London principles to be included

More inputs from Members required as examples of “best practice”

## Risk Assessment and incidents classification

Correct classification of an incident is vital at the earliest possible stage, to ensure that an appropriate level of response and interaction with relevant allied services initiated. The numerous factors affecting the severity, complexity and duration of an incident must be thoroughly assessed. Incidents are to be classified only by authorised and qualified persons.

Table 1. Simplified incident classification

|  |  |  |  |
| --- | --- | --- | --- |
| Management and resources requirements |  | | |
| SEVERITY  Low | Minor Incident | Minor Incident | Marine Emergency |
| Significant | Minor Incident | Marine Emergency | **MAJOR INCIDENT** |
| Critical | Marine Emergency | **MAJOR INCIDENT** | **MAJOR INCIDENT** |

MANAGEMENT AND RESORCE REQUIREMENT

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Evaluation of incident levels (given for guidance only):

**4.1.2. Minor Incident**

These constitute the vast majority of incidents. They have the following characteristics:

* Managed as a routine by VTS;
* Integral part of the duties of the VTSO;
* Generally of short duration and of little, if any, impact on routine port operations;
* Will have little, if any, impact on external parties concerned.

**4.1.3. Marine Emergency**

An emergency of important severity, requiring a rising levels of management and resources deployment to ensure an effective response.

Marine emergencies have the following characteristics:

* A real or perceived threat to life;
* Serious damage or the possibility of serious damage to the environment, vessels, installations, berth facilities or other significant river structures;
* The requirement to mobilise internal manpower and resources on a scale beyond normal day to day requirements;
* The requirement for attendance and action by external allied or other services;
* The closure of a navigation channel, or other such threat to the safety of navigation as a result of a marine or land based incident.

**4.1.4. Major Incident**

It has the following characteristics:

* Death, or serious injury to a number of people;
* Extensive damage to, or contamination of the environment;
* Extensive damage to vessels, installations, berth facilities or other significant river structures which involves the support or involvement of Category 1 responders;
* Serious disruption to the operation of the port.

Table 2. INCIDENT CLASSIFICATION & ASSES example

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Human Impact | Material Disruption | Environmental Impact | Response Resources | Response Management | Media Interest |
| **MINOR INCIDENT** | Nil – Minor | Minor | Tier 1 | Routine | Day-to-day | None/Minor |
| **MARINE**  **EMERGENCY** | Some | Intermediate | Tier 2 | “Call-in” | Enhanced | Significant |
| **MAJOR INCIDENT** | Extensive | Major | Tier 3 | External | “Special Measures” | Intensive |

As a general principle, if in doubt, it is better to classify an incident to the next highest level the adverse consequences of having to “stand-down” resources are far less than not having resources available because of delays and indecision.

* 1. As result of classification made a VTS Emergencies Procedures are to be issued. See above. National Contingency Plan has to be issued by dedicated Authority (MRCC).

In compliance to the convention on maritime search and rescue (SAR 79) and the IAMSAR manual, VTS are identified as alerting posts. VTS may received a distress alarm or witnessed any distress situation; in such cases VTS must hand over the operation to the MRCC.

## Incident scenarios

A variety of scenarios which may warrant a marine emergency response have been identified. The general and individual characteristics of the necessary response to such scenarios have been detailed in each INCIDENT ACTION SHEET. Such ACTION SHEETS are designed to guide and assist in the response to a specific incident, and act as a prompt/checklist for initial call-outs and notifications, and activation of resources. Completed Action Sheets should be collated by the appropriate Competent Authority at the end of the incident, along with other documentation generated during the response.

# Interaction with Security services

Protection against terrorist action in the maritime domain requires, among many things, a complete image of vessel traffic in areas of concern with information on the intentions and cargoes of those vessels as well as vigilant monitoring of this vessel traffic. This information could also be of use to support actions against smuggling of goods and illegal immigrants.

In the current heightened security environment, and following the additional security measures adopted by the IMO at its Diplomatic Conference in December 2002, it is entirely sensible that national security organisations should take full advantage of the information generated by VTS centres. This is best achieved by recognising that security organisations should, where appropriate, become the recipients of VTS generated information as allied services, provided the safety of navigation is not affected.

VTS Centres can, at present, only contribute to certain security issues. Mainly because VTS Centres are not able to see all traffic, particularly small craft, and VTS-operators are not specifically trained to recognise potential security threats nor are they qualified and equipped to deal with them.

# Incindent debriefing and analysing by VTS

Important

The accurate recording of VTS information (radar and CCTV video, targets, other sensors data, operator actions etc.) during an incident is of paramount importance. Such information is essential for post-incident analysis (with the objective of improving performance and procedures, rather than “finding fault”) and also for any external public enquiry or wherever there is a statutory obligation to produce written evidence.

The ultimate objective of incident debriefing and analysing is to identify areas of concern and implement appropriate corrective actions to avoid accident, at least in VTS area. To do so requires that reports of accident are to be generated, shared, read and acted upon. VTS should be encouraged to consider accident analysing as a way to enhance safety of navigation in general.

# References

SOLAS Regulation V-12 *Vessel Traffic Services*

IMO Resolution A.857(20) *Guidelines for Vessel Traffic Services*

IMO MSC-MEPC.7 / Circ.7 Guidance on near-miss reporting

IALA Recommendation V-127 on *Operational Procedures for Vessel Traffic Services*

IALA VTS Manual (2008)

1. Example of Emergency procedure (from Ushant Port Administration, France VTS34-8-17)
2. Example of Report of a contravention (from Ushant Port Administration, France VTS34-8-16)
3. EXAMPLEs of action Sheets (From Port of London Authorities, UK)

Additional inputs from Members required (Quick Response Checklists ? USA ?)