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| IALA Guideline |

G1141

Operational Procedures for DELIVERING VTS

Edition 1

December 2018

Revisions to this IALA document are to be noted in the table prior to the issue of a revised document.

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| Date | Details | Approval |
| 14 December 2018 | 1st issue  Guideline prepared to align Recommendation R0127(V-127) – VTS Operations, following adoption of IALA Standards | Council 68 |
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|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

1 INTRODUCTION 5

1.1 Objective 5

1.2 Scope 5

2 Internal VTS Procedures 6

2.1 Routine Procedures 6

2.1.1 Gathering and Recording of Information 6

2.1.2 Operational Staff 6

2.1.3 Equipment Operation, Maintenance, Calibration and Updating 6

2.1.4 Public Relations 7

2.1.5 Security 7

2.1.6 Training 7

2.1.7 Watch Handover 7

2.1.8 Vessel Handover 7

2.1.9 Maintenance of Marine Publications and nautical charts 8

2.1.10 Collecting information on incidents and accidents 8

2.2 Emergency Procedures 8

3 External VTS Procedures 8

3.1 Routine Procedures 9

3.1.1 VHF Communication 9

3.1.2 Pre-Arrival Information 9

3.1.3 Vessels Entering VTS Area 9

3.1.4 Vessels movements Within VTS Area 10

3.1.5 Monitoring and management of ship traffic 10

3.1.6 Responding to developing unsafe situations 10

3.1.7 Vessels at Anchor 11

3.1.8 Vessels at Berth 11

3.1.9 Vessels Departing the VTS Area 11

3.1.10 Transition between Adjacent VTS Areas 11

3.1.11 Adverse Environmental Conditions 11

3.1.12 Digital Maritime Services 12

3.1.13 Interaction with Allied Services 12

3.2 Emergency Procedures 12

3.2.1 Collision, Capsizing, Sinking, Grounding, Fire onBOARD, Man Overboard 12

3.2.2 Pollution 13

3.2.3 Places of Refuge 13

3.2.4 Medical Emergency 13

3.2.5 Vessel Not Under Command (NUC) 13

3.2.6 Security Incident 13

3.2.7 Protest Action 13

3.2.8 Natural Disaster 14

4 Evaluation of Procedures 14

# INTRODUCTION

The purpose of vessel traffic services is to contribute to safety of life at sea, safety and efficiency of navigation and the protection of the marine environment within the VTS area by mitigating the development of unsafe situations.

VTS authorities are responsible for ensuring that the objectives set by the competent authority are met (IALA Guidline G1131 – Setting and Measuring VTS Objectives). The authority delegated to VTS staff should be clearly identified in the documented operational procedures of a VTS. Such procedures should be an integral part of a verifiable Safety Management System (SMS) or any other applicable standards for the VTS.

The nature of the tasks and activities to be performed will depend on the operational objectives for the VTS. In general, these tasks and activities all involve collecting, processing, evaluating and disseminating information. The collection and dissemination of this information will involve both internal and external communications, while information will be processed within the VTS centre itself. The level of decision-making that can be taken within the VTS centre should be clearly identified.

A clear distinction is made in this document between internal and external procedures.

***Internal Procedures*** *– procedures that cover the day-to-day running of a VTS centre, including but not limited to the operation of systems and sensors, interactions among the staff and the internal managementetc.*

***External Procedures*** *– procedures that govern the interaction with participating vessels and allied services .*

A further distinction is made between routine and emergency procedures.

To achieve a standardised operations/performance within the VTS centre, clearly defined operating procedures are paramount. This will assist the user in understanding information or instructions given by the VTS.

It is recommended that the operating procedures are documented and updated in electronic and / or printed version. The records of updates should be kept. Updated procedures should be available to VTS personnel in all applicable locations. These standard operating procedures should be an integral part of training and adherence should be monitored.

To achieve collaboration, it is recommended that these procedures (or part of them) may be shared with allied services.

## Objective

This Guideline has been prepared to assist a VTS in developing operational procedures for a VTS centre, noting that, differing procedures may cause confusion to ship/masters, and that vessel traffic services should be established and operated in a harmonized manner and in accordance with internationally approved guidelines.

## Scope

The guideline covers the operational procedures required to achieve the purpose of a VTS to ;

* Provide timely and relevant information on factors that may influence the ship's movements and assist onboard decision-making
* Monitor and manage ship traffic to ensure the safety and efficiency of ship movements
* Respond to developing unsafe situations

The VTS authority should also consider implementing procedures in regards to the overall management of a VTS including;

* Procedures to ensure the VTS conforms to the regulatory framework set by the competent authority including deviation reporting both to the VTS Authority and the Competent Authority.
* Setting Objectives and Targets for the VTS that are consistent with improving safety and efficiency of ship traffic and protection of the environment

# Internal VTS Procedures

VTS authorities should develop and document procedures for all operations, both routine and emergency, internal to the VTS.

The following are examples of the type of operational internal activities for which procedures should be developed. The examples are neither mandatory nor exhaustive and should be adapted to suit local needs.

## Routine Procedures

### Gathering and Recording of Information

The period of time for which information gathered by a VTS is required to be stored should be identified in internal procedures. This time period should be such that it allows for the full retrieval of data post-incident/accident, in compliance with national requirements and those of the incident/accident investigation procedures of the VTS authority and other interested parties. This type of information may include:

* Communications (internal and/or external);
* Sensor data (i.e. data used to generate the traffic image such as radar, CCTV, AIS);
* Shipping information data (e.g. vessel and cargo data, including vessel movement information);
* Meteorological and hydrological data; and
* Data from other sources.

Provision should be made for the storage, security, retrieval and presentation of this information.

### Operational Staff

The operational staff should at any time be based upon safe and efficient operations in the VTS area to meet the operational needs and should be reflected in the human resource planning, including staff rotation and rest period arrangements within any given shift or watch. IALA Guideline G1045 – Staffing Levels at VTS Centres – refers.

General descriptions of different personnel's (i.e. VTSO, VTS supervisor, VTS manager) tasks should be well defined in order to clarify the roles and responsibilities.

### Equipment Operation, Maintenance, Calibration and Updating

All manuals and handbooks for equipment operation, maintenance (preventative and remedial), calibration and updating should be properly maintained and be readily available to the appropriate personnel.

Key considerations include:

* Descriptions of all VTS equipment and external systems used in the VTS
* Operation of equipment, to cover all normal and emergency procedures;
* Determination of acceptable availability criteria for equipment;
* Categorisation and prioritisation of maintenance and defects;
* Calibration of all sensors within specified tolerance level; and
* Updating of equipment (hardware and software) and their associated manuals/handbooks.

### Public Relations

There should be a documented policy for contacts with the media and the public. Issues for consideration may include:

* Nominated lead department for public relations;
* Publication of ongoing activities within the VTS area; and
* Protection of sensitive information.

### Security

Procedures should be in line with local and national requirements and should be clearly documented. They should, as a minimum, ensure the security:

* Data transmission and storage (e.g. Cyber Security);
* VTS personnel; and
* VTS buildings and structures.

Procedures should reflect any involvement of the VTS with the Port Facility Security Plan (PFSP) as per the International Ship and Port facility Security Code (ISPS).

### Training

There should be arrangements for regular assessments and application of appropriate measures for compliance in accordance with IALA Recommendation R0103 – Standards for Training and Certification of VTS Personnel.

### Watch Handover

Watch handover arrangements should be formalised and include, as an example, information on:

* Present traffic situation;
* Expected / developing traffic situations;
* Incidents and special operations (e.g. SAR or military operations);
* Environmental conditions;
* Equipment performance / availability;
* Status of allied services;
* Personnel availability;
* Appropriate times for watch handover; and
* Method for documenting the handover.

### Vessel Handover

The arrangements for vessel handover between adjacent sectors or areas should be clearly laid down. Components may include:

* Mutual understanding of the handover procedures;
* Identification of information to be communicated between operators (e.g. communication channel, vessel identification, etc.);
* Method for documenting the vessel handover.

### Maintenance of Marine Publications and nautical charts

A VTS authority should ensure that arrangements are in place for maintaining, updating and disseminating charts and nautical and associated publications (paper and electronic).

### Collecting information on incidents and accidents

The arrangements for the gathering and exchange of information on incidents, accidents and/or near misses in the VTS area should be described. This may also include the procedures for incident reporting and dissemination of information to relevant parties.

## Emergency Procedures

A VTS authority should have documented contingency plans to ensure the safety of VTS personnel and for the continuity of operations in the event of an emergency. The authority should have plans to address events such:

* System and equipment Failure:
* Loss of external communications;
* Loss of internal communications;
* Loss of functionality of sensor equipment;
* Loss of information management systems.
* Internal emergencies, for example fire and flood;
* Forced evacuation of VTS centre;
* Personnel medical emergencies; and
* Security incidents.

The following issues may be included in these plans:

* Remedial action;
* Callout procedures;
* Fall-back options;
* Media or allied services communications;
* Recording of incident;
* Data safeguarding;
* Post-emergency debriefing.

# External VTS Procedures

VTS authorities should develop and document procedures for all operations, both routine and emergency, external to the VTS. Such procedures should cover interactions between the VTS, participating vessels and allied services. External information exchange should be standardized as much as possible.

The following are examples of the type of external operational activities for which procedures should be developed. The examples are neither mandatory nor exhaustive and should be adapted to suit local needs.

## Routine Procedures

### VHF Communication

Procedures to ensure that VHF Communication is timely, clear, concise and unambiguous should be established. In VHF communications with vessels, the IMO Standard Marine Communication Phrases (SMCP) (reference Resolution A.918(22)) and IALA Guideline G1132 – VTS VHF Voice Communication - should be used whenever applicable.

Procedures should also include list of the VHF channels used and monitored in the VTS area.

### Pre-Arrival Information

Pre-arrival information is basic information regarding the vessel and its intent to enter the VTS area. The VTS authority and / or Competent Authority should specify the format and timing of pre-arrival information. Aspects for consideration may include:

* Contents of Pre-arrival:
* Route information;
* ETA;
* Vessel Identity (Name, IMO number, Call Sign, MMSI);
* Vessel dimensions as relevant;
* Vessel draft;
* Air draft
* Hazardous, dangerous or polluting goods details;
* ISPS security level;
* Information about any vessel defects or deficiencies; or
* Other specified details.
* Communication requirements for participating vessels;
* Procedures to ensure advanced information has been obtained;
* Procedures for non-compliance; and
* Procedures for information exchange with allied services.

### Vessels Entering VTS Area

When a vessel enters the VTS Area the following procedures should be considered:

* Procedures for establishing communications and verifying vessel identity, position and intention;
* Procedures for information exchange, which may include:
* Reporting requirements;
* Provide relevant traffic information;
* Provide navigational / fairway information;
* Vessel defects or deficienciess, such as navigation or manoeuvring equipment failure.
* Procedures for updating information with allied services.

### Vessels movements Within VTS Area

Procedures should be established for vessel movements within a VTS area. These may include:

* Reporting formalities;
* Provision or exchange (AIS, VDES or other means) of relevant information to participating vessels at regular intervals or on demand or deemed necessary by the VTS, including:
* Environmental conditions;
* Traffic situation;
* Navigational conditions;
* Traffic separations/overtaking restrictions;
* Warnings and restrictions concerning the movement of traffic in the area; and
* Maritime Safety Information.
* Special provisions for vessels carrying hazardous, dangerous or polluting cargo;
* Compliance with pilotage requirements;
* Procedures for non-compliance;
* Track/monitor and communicate with vessels not required to participate in the VTS; and
* Procedures for information exchange/update on allied services.

### Monitoring and management of ship traffic

Procedures for the monitoring and management of ship traffic should be established. These may include:

* forward planning of ship movements;
* organizing ship underway;
* organizing space allocation;
* establishing a system of traffic clearances; and
* establishing a system of voyage or passage plans.

If the VTS has established a system of traffic clearances the procedures of that system and the area where they are applicable should be clearly defined. IALA Guideline G1089 – Provision of VTS – refers.

Also the procedures for ensuring compliance with the regulatory provisions should be included if appropriate.

### Responding to developing unsafe situations

Procedures for responding to developing unsafe situations should be established, and may include:

* a ship unsure of its route or position;
* a ship deviating from the route;
* a ship requiring guidance to an anchoring position;
* a ship that has defects or deficiencies, such as navigation or manoeuvring equipment failure;
* severe meteorological conditions (e.g. low visibility, strong winds); and
* a ship at risk of grounding or collision.

The response should include the provision of essential navigational information, advice and/or instructions to assist on board navigational decision-making.

IALA Guideline G1089 – Provision of VTS – refers.

### Vessels at Anchor

Procedures should be established for vessels at anchor in a VTS area. Depending on the capability of the VTS to monitor the vessel position under prevailing conditions, these may include:

* Anchorage assignment;
* Communication requirements;
* Reporting requirement for vessels prior to leaving the anchorage;
* Non-compliance by a vessel with the requirements and procedures laid down for the VTS area; and
* Procedures for information exchange/update on allied services.

### Vessels at Berth

Procedures should be established for vessels at berth in a VTS area. Depending on the capability of the VTS to monitor the vessel position under prevailing conditions, these may include:

* Reporting requirements for vessels on arrival at berth;
* Non-compliance with the reporting requirements;
* Security requirements including security level;
* Special requirements to maintain communications watch;
* Need for restrictions for other vessels passing the berth, for example when bunkering;
* Reporting requirement for vessels prior to leaving the berth; and
* Procedures for information exchange/update on allied services.

### Vessels Departing the VTS Area

Procedures should be established for vessels departing the VTS area. These may include:

* Reporting requirement for vessels prior to departing the area;
* Non-compliance with the VTS area requirements; and
* Handover requirements with adjacent or next VTS.

### Transition between Adjacent VTS Areas

Procedures should be established for vessels transiting between adjacent VTS areas. The handover arrangements may include:

* Transfer of vessel information such as identification, cargo, destination and ETA
* Process for communication procedures; and
* Process to ensure vessel monitoring.

### Adverse Environmental Conditions

In situations of adverse environmental conditions within the VTS area, such as poor visibility, strong currents or tidal streams, high winds, ice etc. special procedures may be required. These may include:

* Restriction or prohibition on movement;
* Additional reporting requirements;
* Additional separation between vessels;
* Additional requirements (e.g. mandatory tug service, pilot, etc.).

Special consideration may need to be given depending on vessel characteristics and local geography and conditions.

### Digital Maritime Services

If the VTS, in addition to VHF communication, also provides information in digital format, procedures on digital information exchange should be established. This information may include e.g. use of AIS messages to provide information on weather and virtual AtoN's or the exchange of route information.

The procedures should include a description of the information delivered digitally and the communication means used for the information exchange.

### Interaction with Allied Services

This should include procedures for interaction with, for example:

* Pilots;
* Tugs and tug operators;
* Icebreakers and icebreaker operators;
* Shipping agents; and
* Government agencies, including law enforcement agencies

IALA Guideline G1102 – VTS Interaction with Allied or Other Services– refers.

## Emergency Procedures

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

Other authorities (e.g. Maritime Rescue Co-ordination Centre (MRCC)) might be responsible for handling external emergencies within the VTS area. In that case procedures on the interaction between the VTS and these authorities need to be established.

### Collision, Capsizing, Sinking, Grounding, Fire onBOARD, Man Overboard

Procedures should be established to deal with situations such as collision, capsizing, sinking, grounding, fire onboard, man overboard, which may include the following actions:

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

### Pollution

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

* Alert relevant environmental authority and/or service(s);
* Alert relevant response authority and/or service(s)
* Inform and co-operate with relevant regulatory authority/ies;
* 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.

### Places of Refuge

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

### Medical Emergency

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

* Inform MRCC ;
* Inform coastal radio station;
* Consider special manoeuvring requirements.

### 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 onboard 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.

### 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).

### 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 but not limited to VTS manager;
* Promulgate information concerning incident to vessels in the VTS area.

Throughout any protest action, the safety of ships and protestors is paramount.

### 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 MRCC.

# Evaluation of Procedures

All procedures should be reviewed and evaluated regularly and also at relevant times to evaluate their adequacy and to support the objectives of the VTS.

Such relevant times may include;

* Changes to regulatory requirements;
* Changes to VTS infrastructure including systems and equipment changes and upgrades;
* Changes of VTS areas and sectors;
* Changes of port or fairway infrastructure;
* After a significant near miss or incident; and
* As part of the ongoing evaluation of the VTS.

The VTS authority should also ensure that VTS personnel are updated with changes to procedures and competence verified through revalidation training.