|  |
| --- |
| IALA Guideline |

Guideline 1089

PROVISION OF VESSEL TRAFFIC SERVICES (VTS)

Edition 2.0

Date: December 2021

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

|  |  |  |
| --- | --- | --- |
| Date | Page / Section Revised | Requirement for Revision |
| xx xxx 2021 | Revised Document | To align with new IMO Resolution xxxx Guidelines for Vessel Traffic Services  *[Secretariat may wish to add history?]* |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

1. INTRODUCTION 4

2. DOCUMENT PURPOSE 4

3. GENERAL CONSIDERATIONS 4

3.1. Legal Considerations 4

3.2. Interaction with participating ships 5

4. PROVISON OF VESSEL TRAFFIC SERVICES TO PARTICIPATING SHIPS 5

4.1. Timely and relevant information 5

4.1.1. Delivery of Information 6

4.1.2. Examples of timely and relevant information 6

4.2. Monitoring and management of ship traffic 7

4.2.1. Examples of the Monitoring and Management of Ship Traffic 7

4.3. Responding to developing unsafe situations 8

4.3.1. On Request 9

4.3.2. Observed 9

4.3.3. Procedural 9

4.3.4. Conclusion of Support 9

4.3.5. Examples of Responding to Developing Unsafe Situations 9

5. OTHER CONSIDERATIONS 10

5.1. VTS in association with an IMO adopted scheme 10

5.2. Voluntary VTS 10

5.3. Voluntary participation in a mandatory VTS 11

6. COMMUNICATION 11

6.1. Message Markers 11

7. REFERENCES 12

# INTRODUCTION

VTS is recognized internationally as a navigational safety measure in the International Convention on Safety of Life at Sea, 1974, as amended (SOLAS). SOLAS also states that contracting Governments planning and implementing VTS shall, wherever possible, follow the guidelines developed by the International Maritime Organisation (IMO).

IMO Resolution A.xxx(xx) Guidelines for Vessel Traffic Services defines VTS as:

*“A service implemented by a Government with the capability to interact with vessel traffic and respond to developing situations within a vessel traffic service area to improve the safety and efficiency of navigation, contribute to safety of life at sea and support the protection of the environment.”*

# DOCUMENT PURPOSE

The purpose of this document is to provide guidance for the provision of VTS to participating ships in a harmonized manner in accordance with internationally approved guidelines and IALA Standards.

|  |
| --- |
| This Guideline is associated with IALA *Recommendation R0127(V-127) on VTS Operations. Recommendation R0127* is a normative provision of IALA Standard 1040 Vessel Traffic Services is to be followed in order to comply with the Standard. |

# GENERAL CONSIDERATIONS

VTS operates within a comprehensive environment in which ships, ports, allied services and other organizations fulfil their respective roles, as appropriate. VTS achieves its purpose through the interaction with participating and allied services, both by voice communications and other means.

To ensure the effective provision of VTS authorities should conform with all IALA normative provisions related to the implementation and operations of VTS. In particular this includes IALA Recommendations relating to:

* Operations
* Communication
* Technology
* Qualifications and training

For further information on the suite of IALA guidance related to VTS is available from the *IALA Reference List – Standard Documentation Relating to VTS*.

## Legal Considerations

IMO Resolution A.xxx(xx) Guidelines for Vessel Traffic Services states that:

* Contracting Governments should:

*“establish a legal basis for VTS that gives effect to regulation V/12 of the Convention”;* and

*“appoint and authorize a competent authority for VTS”.*

* Competent authorities for VTS should:

“*establish a regulatory framework for establishing and operating VTSs in accordance with relevant international conventions and IMO instruments, IALA standards and national law*”.

In providing VTS, consideration should be given to the legal basis for the VTS to provide information, warning, advice or instruction. When an instruction is issued, the recipient has a legal obligation to comply with this message unless the master considers that contradictory safety and/or marine environment protection reasons exist.

## Interaction with participating ships

IMO Resolution A.xxx(xx) sets out the responsibilities of the VTS Provider and the requirements of participating ships. In particular, it states that:

*“Participating ships should comply with the requirements and instructions given to the ship by the VTS unless contradictory safety and/or marine environment protection reasons exist."*

However, it adds the caveat that:

*“Nothing in these Guidelines changes the Master's ultimate responsibility for all aspects of the operation of the ship including the responsibility for safe navigation.”*

In interacting with a participating ship, irrespective of whether the service is initiated by the VTS or the participating ship, care should be taken that VTS operations do not encroach upon the master's responsibility for safe navigation or otherwise unnecessarily interfere with the bridge team operations.

IMO Resolution A.xxx(xx) also emphasises that “*VTS communications should be timely, clear, concise and unambiguous*”. It is important that assistance to on board decision-making is provided by the VTS in a timely manner, is clearly understood by both parties and is not open to misinterpretation to minimize the risk of unexpected and dangerous reactions.

# PROVISON OF VESSEL TRAFFIC SERVICES TO PARTICIPATING SHIPS

IMO Resolution A.xxx(xx) states that:

*“The purpose of VTS is to contribute to safety of life at sea, safety and efficiency of navigation and the protection of the environment within the VTS area by mitigating the development of unsafe situations through:*

1. *The provision of timely and relevant information on factors that may influence the ship's movements and assist on-board decision making.*
2. *The monitoring and management of ship traffic to ensure the safety and efficiency of ship movements.*
3. *Responding to developing unsafe situations.*

A VTS should be capable of delivering this within the regulatory framework set by the competent authority for VTS. The VTS Provider should ensure that VTS personnel are appropriately trained, qualified and aware of the legal mandate for the VTS and as part of their local certification.

## Timely and relevant information

The provision of timely and relevant information on factors that may influence the ship's movements and assist on-board decision making should be provided where:

* Deemed necessary by the VTS; or
* Requested by the participating ship.

Timely and relevant information may include but is not limited to:

* The position, identity, intention and movements of ships;
* Maritime safety information;
* Limitations of ships in the VTS area that may impose restrictions on the navigation of other ships (e.g. manoeuvrability), or any other potential hindrances; or
* Any information concerning the safe navigation of the vessel.
* Other information such as reporting formalities and International Ship and Port Facility Security Code details;
* Support to, and cooperation with, allied services;
* Amendments and changes in promulgated information concerning the VTS area such as boundaries, procedures, radio frequencies, reporting points;
* The mandatory reporting of vessel traffic movements;
* Meteorological and hydrological conditions, notices to mariners, status of aids to navigation;

### Delivery of Information

Depending on the type of information and the situation, this may be delivered by:

* Broadcasting the information at fixed times and intervals, as promulgated in the appropriate navigational publications, or
* Through direct communication with individual vessel/s.

### Examples of timely and relevant information

Examples of timely and relevant information include:

| Information related to: | Examples: |
| --- | --- |
| Navigational situations (including traffic and route information) | * Position, identity, destination of vessels and the intention of other traffic; * Amendments and changes in promulgated information concerning the VTS area such as boundaries, procedures, radio frequencies, reporting points; the mandatory reporting of movements; * Limited manoeuvrability that may impose restrictions on the navigation of other vessels, or any other potential hindrances; * Suspension or change of routes. |
| Navigational warnings | Dangerous wrecks, obstacles not otherwise promulgated, diving operations, vessels not under command. |
| Meteorology | Information that will include the speed and direction of the prevailing wind, direction and height of the waves, visibility, atmospheric pressure, the formation of ice. |
| Meteorological warnings | Gale, storm, tsunami, restricted visibility. |
| Hydrography | Information that will include factors such as the stability of the seabed, sea depth, the accuracy of surveys, tidal ranges, tidal streams, prevailing currents and swell. |
| Electronic navigational aids | The availability of electronic navigational aids such as: GNSS, Loran, LRIT, DGPS, AIS, RACON. |
| Other information | Port information, pilot or tug request, cargo information, health condition, Port State Control (PSC), International Ship and Port Facility Security (ISPS). |

If a VTS is tasked with providing a maritime safety information service (MSI), guidance on this type of information is found in IMO Resolution A.706(17) a – World-wide navigational warning service.

## Monitoring and management of ship traffic

The monitoring and management of ship traffic to ensure the safety and efficiency of ship movements is a core function of VTS to mitigate the development of dangerous traffic situations and to provide for the safe and efficient movement of vessel traffic within the VTS area. It concerns the operational management of traffic and the planning of vessel movements and is particularly relevant in times of high traffic density or when vessel movements may affect the traffic flow.

The monitoring and management of ship traffic to ensure the safety and efficiency of ship movements may include:

* Forward planning and prioritisation of ship movements to prevent congestion or dangerous situations;
* Organizing ships underway noting that special transports or vessels with hazardous or polluting cargo may affect the flow of other traffic;
* Organizing space allocation;
* Establishing a system of traffic clearances;
* Establishing a system of voyage or passage plans;
* Providing route advice;
* Establishing mandatory reporting of movements in the VTS area;
* Establishing special routes to be followed;
* Establishing speed limits to be observed;
* Organising nautical activities (e.g. sailing regattas) or marine works in-progress (such as dredging or submarine cable-laying) to avoid interference with the flow of vessel traffic; and
* Ensuring compliance with and enforcement of regulatory provisions for which they are empowered.

### Examples of the Monitoring and Management of Ship Traffic

Some examples of when the monitoring and management of ship traffic might be required include:

| Information related to: | Examples: |
| --- | --- |
| Traffic clearance | Give authorization under conditional circumstances to a vessel when:   * prior to or entering a VTS area; * departing from a berth or an anchorage position within a VTS * area; * entering into a fairway within a VTS area; * prior to commencing a manoeuvre that may be detrimental to safe navigation.   Examples of some conditions:   * a VTS sailing plan before entering a VTS area; * lock and bridge passage planning; * report position at determined reporting point/line/pilot station; * use a second fairway in case of bad visibility/weather; * use a tug boat in case of strong wind; * dredging or compass swing in confined waterway. |
| Anchorage | Examples of anchorage situations:   * organizing the movements to/from an anchorage position/area; * assignment of an anchorage position; * assisting vessels into anchorage position. |
| Enforcement | Examples of enforcement:   * speed limits; * adherence to rules regarding traffic routeing measures; * pilotage requirements; * other traffic regulations and possibly local by-laws. |
| Waterway (sea, channels and fairway) management | Examples of management measures:   * the use of one-way traffic as an alternative of two-way traffic, depending on the dimensions of ship or the weather conditions; * organizing other traffic when a vessel has passed point of no return; * slot management to allocate ships in a time window; * organizing the traffic concerning vessel dimensions in comparison to fairway restrictions; * instruct vessels when overtaking is not permitted; * establish and organise ship safety zones in case of particular operations; * establish and organise exclusion zones; * instruct vessels to keep clear from special areas/positions; * organizing the traffic as regards to meteorological, hydrographical or other restrictions such as visibility, wind speed, current, sea state and under keel clearance. |

## Responding to developing unsafe situations

Responding to developing unsafe situations involves support to the navigational safety of the ship through the provision of essential navigational information to assist on board navigational decision-making. It may also involve the provision of navigational advice and/or instruction.

Developing unsafe situations 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);
* A ship at risk of grounding or collision; and
* Emergency response or support to emergency services.
* Vessel deviating from the VTS passage plan;
* Assistance to a vessel to support the unexpected incapacity of a key member of the bridge team.

The need for navigational support may be particularly relevant to difficult navigational or meteorological circumstances or in the event of defects or deficiencies. The provision of navigational support is likely to be required in three generic circumstances:

* At the request of a ship, irrespective of whether a pilot is on board.
* When a navigational situation is observed by the VTS and intervention by the VTS is deemed necessary, or;
* As part of a VTS’s operational procedures.

Navigational support should never be considered to be an alternative to pilotage. If VTS intervention is considered necessary or navigational support requested, the general principle should be that it is used to get the ship to a place of safety to enable the ship to recover from the situation that required navigational support in the first place such as regaining situational awareness, effecting repairs or embarking a pilot to continue its passage.

The provision of navigational support does not absolve the master from the responsibility for the safety of the vessel and, specifically, the responsibility for collision avoidance.

The degree of support will depend on many local factors such as the sea room available, equipment capability and VTS Operator capability and may differ dependent on location within the VTS Area. These factors should be identified by the VTS Provider and clear authorisations given to VTS staff on the extent of navigational support that may be exercised. Whilst generic training in the delivery of navigational support should form part of VTS Operator Training as set out in the IALA Model Course V-103/1, it is essential that the scope of navigational support, and specifically the power to issue instructions, is included in the VTS On the Job Training given by the VTS Provider as part of the IALA Model Course V-103/3 and local endorsement.

When navigational support is provided, it is essential that the ship being supported is positively identified. It is very likely that direct and frequent communication will be required between the VTS and the ship being supported. The VTS should, therefore, consider whether navigational support should be provided on the main working frequency for the VTS sector, which might provide other vessels with additional situational awareness, or whether the vessel requesting support should be transferred to another frequency to avoid overloading the working frequency.

### On Request

When navigational support is provided at the request of a ship, it is likely that there will be sufficient time to allow checks to be made prior to commencement of such support to assess the capability of the vessel to respond to the guidance given.

### Observed

When the VTS observes a developing situation (e.g. a vessel deviating from a recommended route) and deems it necessary to intervene, it is likely that, under such circumstances, the initial intervention by the VTS will invariably need to be carried out on the main working frequency for that VTS sector and the immediate priority will be placed on providing the necessary assistance before attempting to formally negotiate the commencement of navigational support. However, once the immediate situation has been resolved, the continuation of navigational support should be subsequently clarified and further checks considered.

### Procedural

Navigational support may sometimes form part of an operational procedure. Such procedures should take into account the capability of the participants and should be formally documented and appropriately promulgated*.*

### Conclusion of Support

On all occasions when navigational support is provided, it is essential that the conclusion of direct navigational support is clearly identified.

### Examples of Responding to Developing Unsafe Situations

Some examples of when responding to developing unsafe situations might be required include:

| Information related to: | Examples: |
| --- | --- |
| Request and identification | * start and end of navigational support; * request for ship identification such as position, course made good and speed over the ground; * status of ship's equipment. |
| Navigational information  (including position and course information) | Examples provided to an individual vessel:   * provide range and bearing from fixed objects, fairway/channel or way-points; proximity to navigational hazards. * provide information related to navigating into a channel/fairway/lane (i.e. track is parallel/diverging/converging with/from/to reference line). |
| Advice | * advise a ship to alter the course, speed; * advise a ship to close up/drop back on/from another vessel * advise a ship to keep clear from area/position. |
| Warning | Diverging from the recommended track towards dangerous wrecks, obstacles not otherwise promulgated; diving operations; vessels not under command; etc. |
| Instruction | Instruct a ship to keep clear from area/position.  *Note: The VTS Provider should give careful consideration to authorisations to issue an Instruction in developing unsafe situations.* |

# OTHER CONSIDERATIONS

Recognising the contribution of VTS to the safety of navigation, improved efficiency of traffic flow and the protection of the marine environment, there are instances where a VTS may be established:

* In association with an IMO adopted scheme
* Voluntary VTS

There are also situations where ships not designated as participating ships may take part in a mandatory VTS

## VTS in association with an IMO adopted scheme

IMO Resolution A.xxx(xx) Guidelines for Vessel Traffic Services states that:

“*A VTS may be established in association with an IMO adopted ships' routeing system or mandatory ship reporting system in accordance with regulations V/ 10 and V/11 of the Convention, respectively.”*

When a VTS is established in association with an IMO adopted ships' routeing system or mandatory ship reporting system in accordance with SOLAS regulations V/ 10 and V/11, respectively, it may be established under the national law and may also be underpinned by international law or conventions.

The principles of the provision of vessel traffic services to participating ships set out in paragraphs 4.1 – 4.3 above still apply, but consideration may need to be given to the legal basis for any powers of regulation and enforcement.

## Voluntary VTS

SOLAS Chapter V/12 (Vessel Traffic Services) paragraph 3, specifically states that “*The use of VTS may only be made mandatory in sea areas within the territorial seas of a coastal state.*”

IMO Resolution A.xxx(xx) Guidelines for Vessel Traffic Services states that *“A VTS may be established beyond the territorial seas of a coastal State to provide information and advice on the basis of voluntary participation.”*

When a VTS is established beyond the territorial seas of a coastal State solely on the basis of voluntary participation, it may be established under the national law of the government in which the VTS is located but it is unlikely that it will be underpinned with any powers of regulation or enforcement in either international or national law.

Whilst the principles of the provision of vessel traffic services set out in paragraphs 4.1 – 4.3 above still apply, the legal basis of a voluntary VTS should be carefully considered. A voluntary VTS is unlikely to be empowered to regulate or issue instructions and is normally limited to the provision of information and advice.

Training of operators of a voluntary VTS should take into account the legal basis of the VTS. In issuing information, advice or warnings, operators should be mindful of the fact that ships may be present in the VTS Area that are not participating and are unaware of information or advice that may be provided by the voluntary VTS to participating ships.

## Voluntary participation in a mandatory VTS

IMO Resolution A.xxx(xx) Guidelines for Vessel Traffic Services states that “*Ships not designated as participating ships may take part in a VTS subject to complying with the requirements of the VTS and any guidance issued by the VTS provider”.*

There are instances where a VTS may encourage voluntary participation from categories of vessels other than those prescribed as ‘participating ships’ or a vessel that is not a ‘participating ship’ requests to participate to receive information and advice during their transit.

In these situations, the principles of the provision of vessel traffic services set out in paragraphs 4.1 – 4.3 above still apply. However, careful consideration should be given to factors such as: whether the VTS has the authority to issue requirements or instructions to the voluntary participant; the possibility that voluntary participants may not provide information such as their passage plan; and the fact that ‘Participating ships’ may not be aware of ‘voluntary participants’.

# COMMUNICATION

While VHF is normally the primary communications medium for a Vessel Traffic Service, any available means may be used.

A fundamental principle of VTS communications is that any communication should leave the details of execution, such as course to be steered or engine manoeuvres to be executed, to the master on board the vessel. Phrases that are used on the bridge of the vessel, in particular specific rudder or engine commands such as “Stop Engine” or “Hard to Starboard”, should never be used by the VTS.

IALA has issued detailed guidance on communications in Recommendation R1012 - *VTS Communications*, Guideline G1132 - *VTS VHF Voice Communication* and Guideline GXXXX - *VTS Communication Phrases*. These draw on IMO Resolution A.918(22) - Standard Marine Communication Phrases (SMCP). Message Markers are essential in VTS Communications and assist where language difficulties exist.

## Message Markers

There are eight message markers as defined in SMCP. Seven of them are frequently used by the VTS to emphasise the content of the message or to ensure that the message will be properly understood, particularly when language difficulties are apparent between the VTS and the vessel. Message markers precede the message or the corresponding part of the message and make clear whether the message contains Information, Warning, Advice, Instruction, Question, Answer or Request by the use of message markers.

It is recommended as best practice that message markers are used when a VTS communicates with vessels. It is strongly recommended that message markers are always used when a VTS Operator is responding to developing unsafe situations irrespective of the language ability of the recipient; in such circumstances a degree of stress or urgency frequently exists and the use of message markers can help to ensure that the purpose of each part of the message is clear and unambiguous.

VTS Providers should give particular consideration to authorisations given to VTS Personnel to issue warnings, advice or instruction. Practice and scenario-based training will greatly aid an assessment of appropriate authorisations and will bring confidence to VTS Personnel in their use.

The use of Message Markers with examples is described in greater detail in the relevant IALA Guidelines.

# REFERENCES

* IMO Resolution A.xxx(xx) Guidelines for Vessel Traffic Services
* IMO Resolution A.918(22) IMO Standard Marine Communication Phrases (SMCP)
* ITU Radio Regulations, Volume IVE, Recommendation ITU‐R M.1171‐0 and subsequent chapters
* IALA Guideline G-1141 on Operational Procedures for VTS