

# **IALA Guideline No. 1089**

**On**

## **Provision of Vessel Traffic Services (INS, TOS & NAS)**

**Edition 1**

**December 2012**



This Guideline supersedes IALA Guideline 1068, dated May 2009

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)

## Document Revisions

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

Date	Page / Section Revised	Requirement for Revision

## Table of Contents

Document Revisions	2
Table of Contents	3
Index of Tables	4
Index of Figures	4
1 Introduction	5
1.1 Objective	5
2 Acronyms and Definitions	6
3 General provisions	8
3.1 Provision and Declaration of Services	8
3.2 Promulgation of Information about the VTS	8
3.3 Responding to Traffic Situations Developing in the VTS Area	8
3.4 Equipment Capabilities	8
3.5 Staffing and Training	8
3.6 Legal	9
3.7 Operational Procedures	9
3.8 Interaction between a VTS and a Vessel	9
4 Information service (INS)	10
4.1 General	10
4.2 Provision of an Information Service	10
4.2.1 Where may an Information Service be provided?	11
4.2.2 Methods of communicating	11
5 Traffic Organization Service (TOS)	12
5.1 General	12
5.2 Provision of a Traffic Organization Service	12
5.2.1 When should a Traffic Organization Service be provided?	12
5.2.2 Where may Traffic Organization Service be provided?	13
5.2.3 Methods of communicating	14
6 Navigational assistance service (NAS)	14
6.1 General	14
6.2 Provision of a Navigational Assistance Service	14
6.2.1 When should a Navigational Assistance Service be provided?	15
6.2.2 Where may a Navigational Assistance Service be provided?	16
6.2.3 Methods of communicating	16
7 Communication	17
7.1 Message Markers	17
7.1.1 INFORMATION	17
7.1.2 WARNING	17
7.1.3 ADVICE	18

7.1.4	INSTRUCTION	19
7.1.5	QUESTION	19
7.1.6	ANSWER	20
7.1.7	REQUEST	20
7.1.8	INTENTION	20
8	References	20
ANNEX A	ILLUSTRATED EXAMPLES OF THE USE OF MESSAGE MARKERS	21
ANNEX B	EXAMPLES OF A VTS CHECKLIST FOR THE PROVISION OF NAVIGATIONAL ASSISTANCE SERVICE	24

## Index of Tables

Table 1	Acronyms	6
Table 2	General Definitions	6
Table 3	Course, Track and Heading Definitions	7
Table 4	Examples of the types of information that may be provided by the VTS operating an Information Service	10
Table 5	Examples of types of information that may be provided by the VTS within a Traffic Organization Service:	13
Table 6	Examples of the types of information that may be provided by a VTS operating a Navigational Assistance Service	15
Table 7	Examples of the provision of INFORMATION to a vessel within a VTS area	17
Table 8	Examples of the provision of WARNING to a vessel within a VTS area	18
Table 9	Examples of the provision of ADVICE to a vessel within a VTS area	18
Table 10	Examples of the provision of INSTRUCTION to a vessel within a VTS area:	19
Table 11	Examples of the provision of QUESTION to a vessel within a VTS area	19
Table 12	Examples of the provision of ANSWER to a vessel within a VTS area	20
Table 13	Examples of the provision of REQUEST to a vessel within a VTS area	20

## Index of Figures

Figure 1	Examples of VHF communication from a VTS to ships based on SMCP and message markers during INFORMATION SERVICE.	21
Figure 2	Example of VHF communication from VTS during TRAFFIC ORGANISATION SERVICE	22
Figure 3	Example of VHF communication between VTS and ship during NAVIGATIONAL ASSISTANCE SERVICE	23

# Provision of Vessel Traffic Services (INS, TOS & NAS)

## 1 INTRODUCTION

The purpose of Vessel Traffic Services (VTS) is, according to Regulation V-12 of SOLAS [1], to:

*“Contribute the safety and efficiency of navigation, safety of life at sea and the protection of the marine environment and/or the adjacent shore area, worksites and offshore installations from possible adverse effects of maritime traffic.”*

SOLAS also states that contracting Governments planning and implementing VTS shall, wherever possible, follow the guidelines developed by the IMO.

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

*“Service 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.”*

In providing definitions and clarifications with regards to VTS services, IMO Resolution A.857(20) states that:

*“VTS should comprise at least an Information Service and may also include others, such as a Navigational Assistance Service or a Traffic Organization Service, or both.”*

The principles of Vessel Traffic Services are governed by a hierarchy of regulatory requirements and guidelines. Key requirements and guidelines are listed in section 8.

IALA Guideline 1068 on *Provision of a Navigational Assistance Service by Vessel Traffic Service* has been superseded by this guideline.

### 1.1 Objective

The aim of this document is to give guidance on the delivery of the three different types of services provided by a VTS; Information Service (INS), Traffic Organization Service (TOS) and Navigational Assistance Service (NAS). This guideline also aims to achieve consistency in the provision of the services worldwide in order to avoid confusion about the delivery of VTS services for the mariner trading between various jurisdictions.

## 2 ACRONYMS AND DEFINITIONS

To assist in the use of this guideline, the following acronyms and definitions, mainly based on IMO resolutions, have been used:

*Table 1 Acronyms*

<i>COLREG</i>	International Regulations for Preventing Collisions at Sea
<i>IALA</i>	International Association of Marine Aids to Navigation and Lighthouse Authorities
<i>IMO</i>	International Maritime Organization
<i>ISPS</i>	International Ship and Port Facility Security (Code)
<i>OOW</i>	Officer of the Watch
<i>PSC</i>	Port State Control
<i>SMCP</i>	IMO Resolution A.918(22) IMO Standard Marine Communication Phrases
<i>SOLAS</i>	International Convention for the Safety of Life at Sea
<i>VTS</i>	Vessel Traffic Services

*Table 2 General Definitions*

<i>Competent Authority</i>	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.[2]
<i>Information Service (INS)</i>	A service to ensure that essential information becomes available in time for on board navigational decision-making.[2]
<i>Maritime mobile service</i>	The Maritime Mobile Service is an internationally-allocated radio service providing for safety of life and property at sea and on inland waterways.
<i>Navigational assistance</i>	The process of providing assistance in navigation from a VTS to an individual vessel when there is a developing (navigation) situation and when (relevant) information, available to the VTS, may assist the vessels' navigation.
<i>Navigational Assistance Service (NAS)</i>	A service to assist on board navigational decision-making and to monitor its effects. [2]
<i>Participating Vessel</i>	Vessels navigating in an area where vessel traffic services are provided should make use of these services. Depending upon governing rules and regulations, participation in a VTS may be either voluntary or mandatory. Vessels should be allowed to use a VTS where mandatory participation is not required. [2]
<i>Traffic Clearance</i>	VTS authorization for a vessel to proceed under conditions specified. [3]
<i>Traffic Organization Service (TOS)</i>	A service to prevent the development of dangerous maritime traffic situations and to provide for the safe and efficient movement of vessel traffic within the VTS area. [2]

<i>Vessel Traffic Services (VTS)</i>	A service 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. [2]
<i>VTS Authority</i>	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. [2]
<i>VTS Centre</i>	The centre from which the VTS is operated. [2]
<i>VTS Operator</i>	An appropriately qualified person performing one or more tasks contributing to the services of the VTS. [2]
<i>VTS Sailing Plan</i>	A plan which is mutually agreed between a VTS operator and the master of a vessel concerning the movement of the vessel in a VTS area.
<i>VTS Traffic Image</i>	The surface picture of vessels and their movements in a VTS area which may include other information and data.

*Table 3 Course, Track and Heading Definitions*

<i>Course</i>	The intended direction of movement of a vessel through the water.[3]
<i>Course Made Good</i>	That course which a vessel makes good over ground, as a result of the effect of currents, tidal streams and leeway caused by wind and sea.
<i>Course to Make Good</i>	That course which a vessel intends to make good over ground, after allowing for the effect of currents, tidal streams, and leeway caused by wind and sea. (Be aware that this term does not equate to Course to Steer).
<i>Track</i>	The path followed, or to be followed, between one position and another.[3] (Be aware that despite the IMO definition the word track is used in different ways by different users and often in an historic sense.)
<i>Heading</i>	The horizontal direction of the vessel's bows at a given moment measured in degrees clockwise from north.[3]

### **3 GENERAL PROVISIONS**

#### **3.1 Provision and Declaration of Services**

An Information Service (INS) is the fundamental type of service within VTS. It should be formally declared and provided as a service by all VTS. When a VTS Authority organises and manages traffic within its VTS area as part of its function, then it would normally also declare the provision of a Traffic Organization Service (TOS).

A VTS would normally be expected to respond to situations where a vessel is observed, or otherwise deemed, by the VTS to be in need of navigational assistance, using appropriate procedures. The VTS would also normally be expected to respond to requests from a vessel that is in need of navigational assistance. Typical examples include but are not limited to equipment failure or incapacitation of a key member of the bridge team; this may be limited to getting the vessel to the nearest place of safety.

It, therefore, follows that a VTS Authority should declare a Navigational Assistance Service (NAS) in addition to an Information Service (INS) or Traffic Organization Service (TOS) and that VTS personnel should be appropriately trained. Where the delivery of NAS is subject to special conditions or additional capabilities/requirements relating to a specific VTS area, these should be clearly promulgated in the appropriate publications.

#### **3.2 Promulgation of Information about the VTS**

The services provided to the mariner by a VTS should be promulgated in the appropriate internationally recognised marine publications, including the World VTS Guide, and locally produced user guides or manuals. Promulgation should include details of the VTS area, its capabilities, types of service provided, rules, regulations, requirements and procedures. The information promulgated should be reviewed once every year and up-dated when necessary.

#### **3.3 Responding to Traffic Situations Developing in the VTS Area**

IMO Resolution A.857(20) states that:

*“A VTS should at all times be capable of generating a comprehensive overview of the traffic in its service area combined with all traffic influencing factors.”*

The VTS should be able to compile a traffic image, which is the basis for its capability to respond to traffic situations developing in its service area. The VTS traffic image allows the VTS operator to evaluate situations and to respond accordingly.

To respond to traffic situations developing in the VTS area and to determine appropriate actions the acquired data should be processed and evaluated. Conclusions from the evaluation need to be communicated to participating vessels by giving relevant information and in regard to the provided service type. A distinction should be made between the provision of navigational information, being a relay of information extracted from the VTS sensors and the traffic image, and the provision of navigational advice, where a professional opinion is included.

#### **3.4 Equipment Capabilities**

When determining the types of service to be provided, consideration should be given to the quality of the traffic image, communications capability and other sensor equipment as appropriate. For further information refer to IALA Recommendation V-128 – *Operational and Technical Performance Requirements for VTS Equipment* [7].

#### **3.5 Staffing and Training**

The appropriate authorities should determine which types of service a VTS will provide and give careful consideration to:

- The staffing levels required to deliver the service;



- The qualifications of VTS personnel to reflect the type of service they will provide;
- The delegations/authorizations given to the VTS personnel.

Operational personnel serving in a VTS centre should be trained and qualified according to the IALA V-103 standards and assessed to be competent by the relevant authority in the relevant service type/types provided. On-the-Job Training should be appropriate to the types of service provided by the particular VTS Authority.

Although training in the provision of Navigational Assistance Service (NAS) and Traffic Organization Service (TOS) should normally be undertaken with, or as part of V103/1 *VTS Operator Training*, the additional local training for NAS and TOS should be undertaken as part of V103/3 *On-the-Job Training* with specific reference made in their local authorizations.

For further information refer to IALA Recommendation V-103 - *VTS Operator Training* [8] and IALA Guidelines 1045 *on Staffing Levels at VTS Centres* [9].

### **3.6 Legal**

It is important that consideration is given to the national and international legal basis for the provision of the service types provided.

Advice and instruction by VTS personnel should be given under the regulatory powers and responsibilities of the VTS / Competent Authorities.

When an instruction is issued the recipient has a legal obligation to comply with this message unless the master considers the instruction jeopardises the safety of the vessel which then must be reported immediately to the VTS.

### **3.7 Operational Procedures**

All details for the provision of any type of service, including the terminology used, should be contained in the operational procedures of the VTS centre.

Further information and guidance on preparing operational procedures is provided in the IALA Recommendation V-127 *on Operational Procedures for Vessel Traffic Services* [6].

### **3.8 Interaction between a VTS and a Vessel**

Where a VTS provides a service, irrespective of whether the service is initiated by the VTS or the participating vessel, care should be taken that VTS operations do not encroach upon the master's responsibility for safe navigation or disturb the traditional relationship between master and pilot (IMO Resolution A.857(20) Guidelines For Vessel Traffic Services) or otherwise interfere with the bridge team operations. 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.

Decisions concerning the actual navigation and the manoeuvring of the vessel remain with the master. Neither a sailing plan, nor requested or agreed changes to the sailing plan can supersede the decisions of the master concerning the actual navigation and manoeuvring of the vessel.<sup>1</sup>

---

<sup>1</sup> Refer to section 2.6.2 IMO Resolution A.857(20) Guidelines for vessel traffic services.

## 4 INFORMATION SERVICE (INS)

### 4.1 General

An Information Service provides relevant information at appropriate times and on request for the promulgated VTS area.

An Information Service involves maintaining a traffic image and allows interaction with traffic and response to developing traffic situations. An Information Service should provide essential and timely information to assist the on board decision-making process, which may include but is not limited to:

- The position, identity, intention and destination of vessels;
- 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;
- Maneuverability limitations of vessels in the VTS area that may impose restrictions on the navigation of other vessels, or any other potential hindrances: or
- Any information concerning the safe navigation of the vessel.

### 4.2 Provision of an Information Service

An Information Service should be provided when:

- broadcasting information at fixed times and intervals, as promulgated in the appropriate navigational publications;
- deemed necessary by the VTS; or
- the vessel has requested information.

*Table 4 Examples of the types of information that may be provided by the VTS operating an Information Service*

Information related to:	Examples:
Navigational situations (including traffic and route information)	<ul style="list-style-type: none"> <li>• Position, identity, destination of vessels and the intention of other traffic;</li> <li>• Amendments and changes in promulgated information concerning the VTS area such as boundaries, procedures, radio frequencies, reporting points; the mandatory reporting of movements;</li> <li>• Limited maneuverability that may impose restrictions on the navigation of other vessels, or any other potential hindrances;</li> <li>• Suspension or change of routes; etc.</li> </ul>
Navigational warnings	Dangerous wrecks, obstacles not otherwise promulgated, diving operations, vessels not under command, etc.
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, etc.
Meteorological warnings	Gale, storm, tsunami, restricted visibility, etc.
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, etc.

<b>Information related to:</b>	<b>Examples:</b>
Electronic navigational aids	The availability of electronic navigational aids such as: GNSS, Loran, LRIT, DGPS, AIS, RACON etc.
Other information	Port information, pilot or tug request, cargo information, health condition, PSC, ISPS, etc.

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.

Illustrated examples on the use of message markers within an Information Service, is found at ANNEX A.

#### **4.2.1 Where may an Information Service be provided?**

An Information Service should be provided within the declared VTS area where VTS has been deemed necessary by the relevant authority.

#### **4.2.2 Methods of communicating**

While VHF should be the primary means of communicating information, any available means within the maritime mobile service may be used.

## **5 TRAFFIC ORGANIZATION SERVICE (TOS)**

### **5.1 General**

A Traffic Organization Service (TOS) is a service to prevent the development of dangerous maritime traffic situations and to provide for the safe and efficient movement of vessel traffic within the declared 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.

### **5.2 Provision of a Traffic Organization Service**

#### **5.2.1 When should a Traffic Organization Service be provided?**

A Traffic Organization Service should be provided when the VTS is authorized to provide services, such as when:

- vessel movements need to be planned or prioritised to prevent congestion or dangerous situations;
- special transports or vessels with hazardous or polluting cargo may affect the flow of other traffic and need to be organised;
- an operating system of traffic clearances or sailing plans, or both, has been established;
- the allocation of space needs to be organised;
- mandatory reporting of movements in the VTS area has been established;
- special routes should be followed;
- speed limits should be observed;
- the VTS observes a developing situation and deems it necessary to interact and coordinate vessel traffic;
- nautical activities (e.g. sailing regattas) or marine works in-progress (such as dredging or submarine cable-laying) may interfere with the flow of vessel movement.

A Traffic Organization Service should be responsible for separating traffic in the interest of safety. This separation could be defined in space, time and/or distance.

Enforcement may also be carried out within a Traffic Organization Service where the VTS should monitor adherence to applicable rules and regulations and to take appropriate action where required and within the authority of the VTS.

**Table 5** *Examples of types of information that may be provided by the VTS within a Traffic Organization Service:*

Information related to:	Examples:
Traffic clearance	<p>Give authorization under conditional circumstances to a vessel when:</p> <ul style="list-style-type: none"> <li>• prior to or entering a VTS area;</li> <li>• departing from a berth or an anchorage position within a VTS area;</li> <li>• entering into a fairway within a VTS area; or</li> <li>• prior to commencing a manoeuvre that may be detrimental to safe navigation.</li> </ul> <p>Examples of some conditions:</p> <ul style="list-style-type: none"> <li>• a VTS sailing plan before entering a VTS area;</li> <li>• lock and bridge passage planning;</li> <li>• report position at determined reporting point/line/pilot station;</li> <li>• use a second fairway in case of bad visibility/weather;</li> <li>• use a tug boat in case of strong wind;</li> <li>• dredging or compass swing in confined waterway.</li> </ul>
Anchorage	<p>Examples of anchorage situations:</p> <ul style="list-style-type: none"> <li>• organizing the movements to/from an anchorage position/area;</li> <li>• assignment of an anchorage position;</li> <li>• assisting vessels into anchorage position.</li> </ul>
Enforcement	<p>Examples of enforcement:</p> <ul style="list-style-type: none"> <li>• speed limits;</li> <li>• adherence to rules regarding traffic routing measures;</li> <li>• pilotage requirements;</li> <li>• other traffic regulations and possibly local by-laws.</li> </ul>
Waterway (sea, channels and fairway) management	<p>Examples of management measures:</p> <ul style="list-style-type: none"> <li>• the use of one way traffic as an alternative of two way traffic, depending on the dimensions of ship or the weather conditions;</li> <li>• organizing other traffic when a vessel has passed point of no return;</li> <li>• slot management to allocate ships in a time window;</li> <li>• organizing the traffic concerning vessel dimensions in comparison to fairway restrictions;</li> <li>• instruct vessels when overtaking is not permitted;</li> <li>• establish and organise ship safety zones in case of particular operations;</li> <li>• establish and organise exclusion zones;</li> <li>• instruct vessels to keep clear from special areas/positions;</li> <li>• organizing the traffic as regards to meteorological, hydrographical or other restrictions such as visibility, wind speed, current, sea state and under keel clearance.</li> </ul>

Illustrated examples on the use of message markers within a Traffic Organization Service are at ANNEX A.

### 5.2.2 Where may Traffic Organization Service be provided?

A Traffic Organization Service may be provided in part, or all, of the declared VTS area.

### **5.2.3 Methods of communicating**

While VHF may be the primary means of providing a Traffic Organization Service any available means may be used.

## **6 NAVIGATIONAL ASSISTANCE SERVICE (NAS)**

### **6.1 General**

A Navigational Assistance Service is a service that provides essential and timely navigational information to assist in the on board navigational decision-making process and to monitor its effects. It may also involve the provision of navigational advice and/or instruction.

The Navigational Assistance Service is especially important in difficult navigational or meteorological circumstances or in case of defects or deficiencies.

A Navigational Assistance Service is an important supplement to the provision of other navigational services, such as pilotage. Navigational Assistance Service may be provided at the request of a vessel, irrespective of whether a pilot is on board, or when a navigational situation is observed and intervention by the VTS is deemed necessary.

Navigational Assistance Service requires positive identification and continuous communication throughout the process. If possible and if time permits, checks should normally be made prior to commencement of the provision of Navigational Assistance Service to assess the capability of the vessel to respond to the guidance given. An example of a checklist is at ANNEX B, which should be modified as required for local requirements.

VTS operators should be appropriately trained and ready to deliver Navigational Assistance Service when a situation that compromises navigational safety occurs.

### **6.2 Provision of a Navigational Assistance Service**

It is recommended that a Navigational Assistance Service:

- 1 Is provided to an individual vessel, at the request of the vessel or when deemed necessary by the VTS, to assist the decision-making process on board the vessel concerned. This service consists of navigational matters relating to a specific vessel and may include information, warning, advice and instruction subject to the authority of the VTS.
- 2 Has a start and end time.

It is important that information to assist the on board decision-making is provided in a timely manner. It should be conducted in a clear and concise manner in order to maximise on board understanding and to eliminate the chance of misinterpretation and to minimize the risk of unwanted consequences.

Examples of developing situations where a Navigational Assistance Service may be provided:

- Risk of grounding;
- Vessel deviating from the VTS sailing/passage plan;
- Vessel unsure of its position or unable to determine its position;
- Vessel unsure of the route to its destination;
- Assistance to a vessel to an anchoring position;
- Vessel defects or deficiencies, such as navigation or manoeuvring equipment failure;
- Severe meteorological conditions (e.g. low visibility, strong winds);
- Risk of collision between vessels;
- Risk of collision with a fixed or floating object;

- Assistance to a vessel to support the unexpected incapacity of a key member of the bridge team.

### 6.2.1 When should a Navigational Assistance Service be provided?

Navigational Assistance Service should be provided when:

- observed / deemed necessary by the VTS;
- the vessel has requested the service.

#### 6.2.1.1 Observed / deemed necessary by the VTS

This may occur when the VTS observes a developing situation (e.g. a vessel approaching shallow waters) and deems it necessary to interact with the bridge team.

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 immediate priority will be placed on providing the necessary assistance before attempting to formally negotiate the commencement of navigational assistance. However, once the immediate situation has been resolved, the continuation or completion of the service should be subsequently clarified and the use of the checklist considered.

#### 6.2.1.2 On request by a vessel

This may occur on request by a vessel in circumstances such as equipment failure or navigational unfamiliarity. Individual circumstances will dictate the degree of preparation that can be undertaken prior to commencing the Navigational Assistance Service on request. If possible, preparations should include an assessment of the capability of the vessel to undertake the passage safely and/or the risks involved if for any reason the VTS is not able to provide navigational assistance.

The provision of navigational assistance does not absolve the master from the responsibility for the safety of the vessel; furthermore the master should be made aware of any limitations that may affect the service provided. The VTS operator should also be aware of the specific responsibilities for collision avoidance that apply to the vessel.

If possible and if time permits, checks should normally be made prior to commencement of the provision of navigational assistance to assess the capability of the vessel to respond to the guidance given. An example checklist is at ANNEX B, which should be modified as required for local requirements.

*Table 6 Examples of the types of information that may be provided by a VTS operating a Navigational Assistance Service*

Information related to NAS:	Examples:
Request and identification	<ul style="list-style-type: none"> <li>• availability of NAS, start and end of NAS;</li> <li>• request for ship identification such as position, course made good and speed over the ground;</li> <li>• status of ship's equipment; etc.</li> </ul>
Navigational information (including position and course information)	<p>Examples provided to an individual vessel:</p> <ul style="list-style-type: none"> <li>• provide range and bearing from fixed objects, fairway/channel or way-points; proximity to navigational hazards, etc.</li> <li>• provide information related to navigating into a channel/fairway/lane (i.e. track is parallel/diverging/converging with/from/to reference line); etc.</li> </ul>
Advice (or instruction)	<ul style="list-style-type: none"> <li>• advise (or instruct) a ship to alter the course, speed;</li> <li>• advise (or instruct) to keep clear from area/position, close up/drop back on/from vessels; etc.</li> </ul>

Information related to NAS:	Examples:
Warning	Diverging from the recommended track towards dangerous wrecks, obstacles not otherwise promulgated; diving operations; vessels not under command; etc.

Illustrated examples on the use of message markers within a Navigational Assistance Service are at ANNEX A.

### 6.2.2 Where may a Navigational Assistance Service be provided?

Navigational Assistance Service should be provided within the declared VTS area and/or in specified areas or sectors within the VTS area.

### 6.2.3 Methods of communicating

In providing a Navigational Assistance Service it is important that the interaction from a VTS centre to assist the on board decision-making is conducted in a timely manner, is unambiguous and clearly understood by both parties and not open to interpretation.

Messages relating to Navigational Assistance Service should always be addressed by name to the vessel participating in the service so that there is no doubt to whom the content of the message is directed.

Consideration should be given regarding the VHF radio frequency on which the Navigational Assistance Service should be provided depending on individual and local circumstances. An assessment should be made of the benefits of conducting the assistance on a discrete frequency so that interference from other users can be avoided, or the use of a common working frequency such that other users are aware of the likely actions of the vessel participating in the Navigational Assistance Service. Other options may be available if the participating vessel is able to monitor two or more frequencies.

While VHF may be the primary means of providing Navigational Assistance Service any available means may be used.

#### 6.2.3.1 *Message Markers within a Navigational Assistance Service*

Although any message marker may be used when providing a Navigational Assistance Service, INSTRUCTION as a message marker should only be provided when the VTS operator has been given the authority to use it within the Navigational Assistance Service.

It is recommended as best practice that message markers are always used when delivering Navigational Assistance Service irrespective of the language ability of the recipient. Navigational Assistance Service is often provided when a degree of stress or urgency exists and the use of message markers can help to ensure that the purpose of each part of the message is clear and unambiguous.



## 7 COMMUNICATION

IMO Resolution A.918(22) Standard Marine Communication Phrases (SMCP) should be used wherever practicable. Where appropriate, e.g. when language difficulties exist, the VTS operator should ask the OOW of the vessel to use SMCP.

In all VTS communication to a vessel or vessels it should be made clear whether the message contains INFORMATION, ADVICE, WARNING or INSTRUCTION by the use of message markers.

A fundamental principle of VTS communications is that any communication should be result-oriented; leaving 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.

VHF equipment should be used correctly and in accordance with the Radio Regulations.[4]

### 7.1 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. The message marker is to precede the message or the corresponding part of the message.

It is recommended that message markers are used when a VTS communicates with vessels.

The message markers INSTRUCTION and ADVICE may need authorization by the appropriate authority. However, it is at the discretion of the VTS operator which marker is applicable to the situation.

#### 7.1.1 INFORMATION

SMCP defines INFORMATION as a communication whereby the message is restricted to observed facts, situations, etc. and is preferably used for navigational and traffic information.

As such, it is a relay of information extracted from the VTS sensors and the traffic image where no professional opinion by the VTS operator is included, other than the determination by the VTS operator that the information is relevant to the mariner.

Implicit in this definition is that the consequences of using the INFORMATION will be up to the recipient.

*Table 7 Examples of the provision of INFORMATION to a vessel within a VTS area*

Example 1	“INFORMATION. Ice-breaker assistance is mandatory to port “XX”.”
Example 2	“INFORMATION. Next high water at port “YY” predicted to be “...” at a height of “ZZ” metres.”

#### 7.1.2 WARNING

SMCP defines WARNING as a communication whereby the message implies the intention of the sender to inform others about danger. It may be used to convey potentially dangerous situations or observed developing situations.

As such, it is a relay of information extracted from the VTS sensors and the traffic image and, in the professional opinion of the VTS operator, the message should be communicated to inform a vessel or vessels about potential danger.

The contents of a warning message should immediately be assessed on board the vessel in conjunction with any additional information that may not be available to the VTS centre.

Implicit in this definition is that the recipient should pay immediate attention to the danger mentioned. The consequences of a WARNING will be up to the recipient. Subject to the response of the vessel, a warning message may be followed by further messages, such as ADVICE and/or INSTRUCTION.

*Table 8 Examples of the provision of WARNING to a vessel within a VTS area*

Example 1	“WARNING. Obstruction in the fairway. Submerged container bearing.... and distance .... from .... buoy.”
Example 2	“WARNING. According to my equipment you are running into shallow waters, bearing ... distance... from you.”

### 7.1.3 ADVICE

SMCP defines ADVICE as a communication whereby the message implies the intention of the sender to influence the recipient by a recommendation.

Implicit in this definition is:

- A professional opinion on the part of the VTS operator is included in the message as a means to influence the recipient; and
- The recipient should pay immediate attention to the advice mentioned and the consequences of using the information provided will be up to the recipient. Advice does not necessarily have to be followed but should be considered very carefully by the recipient;
- The recipient should always inform the VTS of intended actions.

The provision of ADVICE in response to a developing situation may also include or require:

- An assessment of the suitability of the vessel to respond to the advice provided including an assessment of linguistic ability;
- A review of vessel characteristics including manoeuvrability relative to the area in which the service is provided and any defects or deficiencies;
- An assessment of the environmental conditions; and/or
- An assessment of the implications of the cargo carried.

*Table 9 Examples of the provision of ADVICE to a vessel within a VTS area*

Example 1	“WARNING. According to my equipment you are not following the recommended track.” “ADVICE. Follow the recommended track.”
Example 2	“ADVICE. Recommend course to make good ... degrees.”
Example 3	“WARNING. According to my equipment you are running into danger. Shallow water, bearing ... distance .....” “ADVICE. Recommend course to make good ... degrees.”

VTS personnel and mariners should be fully aware of the implications of words such as “track”, “heading”, “course made good”, “course to make good” and “course”.

ADVICE given from the VTS centre should be result-oriented. Generally, advice should be provided using the terms “track” or “course to make good”.

When authorized by the relevant authority and when intervention by VTS is deemed necessary or requested by a vessel, the VTS operator may advise or recommend a course. However, it should

be understood that the safe and effective execution of the action remains the responsibility of the master.

In all circumstances when ADVICE is given, VTS personnel should monitor its effect carefully.

VTS / Competent Authorities should consider the legal implications of authorizing VTS personnel to issue ADVICE and the competence of staff to give it.

#### 7.1.4 INSTRUCTION

SMCP defines INSTRUCTION as a communication whereby the message implies the intention of the sender to influence the recipient by a regulation.

Implicit in this definition is:

- The sender should have the full authority to communicate such a message;
- The recipient has a legal obligation to comply with this message unless contradictory safety reasons exist, which then have to be reported immediately to the sender.

IMO Resolution A.857(20) Guidelines for Vessel Traffic Services states that:

*“When the VTS is authorized to issue instructions to vessels, these instructions should be result-oriented only, leaving the details of execution, such as course to be steered or engine manoeuvres to be executed, to the master or pilot on board the vessel. Care should be taken that VTS operations do not encroach upon the master's responsibility for safe navigation, or disturb the traditional relationship between master and pilot.”*

Thus, whilst it may be acceptable to issue ADVICE on course, it would not be appropriate to issue precise course and/or speed requirements as an INSTRUCTION.

Generally masters of vessels will respond promptly and carry out INSTRUCTIONS given by a VTS. However, it should be recognised that there may be occasions when an INSTRUCTION by a VTS is disregarded because the master has additional information not available to the VTS centre and he/she decides on another course of action. For example, a vessel that is not being tracked by the VTS may be a contributing factor to the navigational situation.

*Table 10 Examples of the provision of INSTRUCTION to a vessel within a VTS area:*

Example 1	"WARNING. There is a restricted area south of you distance 1.2 nautical miles." "INSTRUCTION. Do not enter this area."
Example 2	"WARNING. Visibility in the approach channel is less than ..... nautical miles." "INSTRUCTION. Do not enter the fairway."

#### 7.1.5 QUESTION

SMCP defines QUESTION as a communication whereby the message marker indicates that the following message is of an interrogative character.

The use of this message marker removes any doubt as to whether a question is being asked or a statement is being made, especially when interrogatives such as what, where, why, who, how are additionally used at the beginning of the question.

Implicit in this definition is that the recipient is expected to return an answer.

*Table 11 Examples of the provision of QUESTION to a vessel within a VTS area*

Example 1	"QUESTION. What is your present maximum draft?"
Example 2	"QUESTION. Are you carrying dangerous goods?"

### 7.1.6 ANSWER

SMCP defines ANSWER as a communication whereby the message marker indicates that the following message is the reply to a previous question.

An answer should not contain another question.

*Table 12 Examples of the provision of ANSWER to a vessel within a VTS area*

Example 1	“QUESTION. What is your present maximum draft?” “ANSWER. My present maximum draft is zero seven metres.”
Example 2	“QUESTION. Are you carrying dangerous goods?” “ANSWER. No, I am not carrying dangerous goods.”

### 7.1.7 REQUEST

SMCP defines REQUEST as a communication whereby the message marker indicates that the following message is asking for action from others with respect to the vessel.

The use of this message marker is to signal: I want something to be arranged or provided, e.g. ship’s stores requirements, tugs, permission, etc.

REQUEST must not be used involving navigation, or to modify COLREGs.

*Table 13 Examples of the provision of REQUEST to a vessel within a VTS area*

Example 1	“REQUEST. Rig the pilot ladder on port side ..... metres above water.”
-----------	--

### 7.1.8 INTENTION

SMCP defines INTENTION as a communication whereby the message marker indicates that the following message informs others about immediate navigational action intended to be taken.

The use of this message marker is logically restricted to messages announcing navigational actions by the vessel sending this message.

Implicit in this definition is that only the vessel can use this message marker and not the VTS centre, e.g. “INTENTION – I will reduce my speed.”

## 8 REFERENCES

- [1] SOLAS Chapter V Regulation 12 Vessel Traffic Services
- [2] IMO Resolution A.857(20) Guidelines for Vessel Traffic Services
- [3] MO Resolution A.918(22) IMO Standard Marine Communication Phrases
- [4] IMO Resolution A.954(23) Proper use of VHF channels at sea
- [5] IALA VTS Manual
- [6] IALA Recommendation V-127 on Operational Procedures for Vessel Traffic Services
- [7] IALA Recommendation V-128 on Operational and Technical Performance Requirements for VTS Equipment
- [8] IALA Recommendation V-103 - VTS Operator training
- [9] IALA Guideline No. 1045 on Staffing Levels at VTS Centres

## ANNEX A ILLUSTRATED EXAMPLES OF THE USE OF MESSAGE MARKERS

### INFORMATION SERVICE (INS)

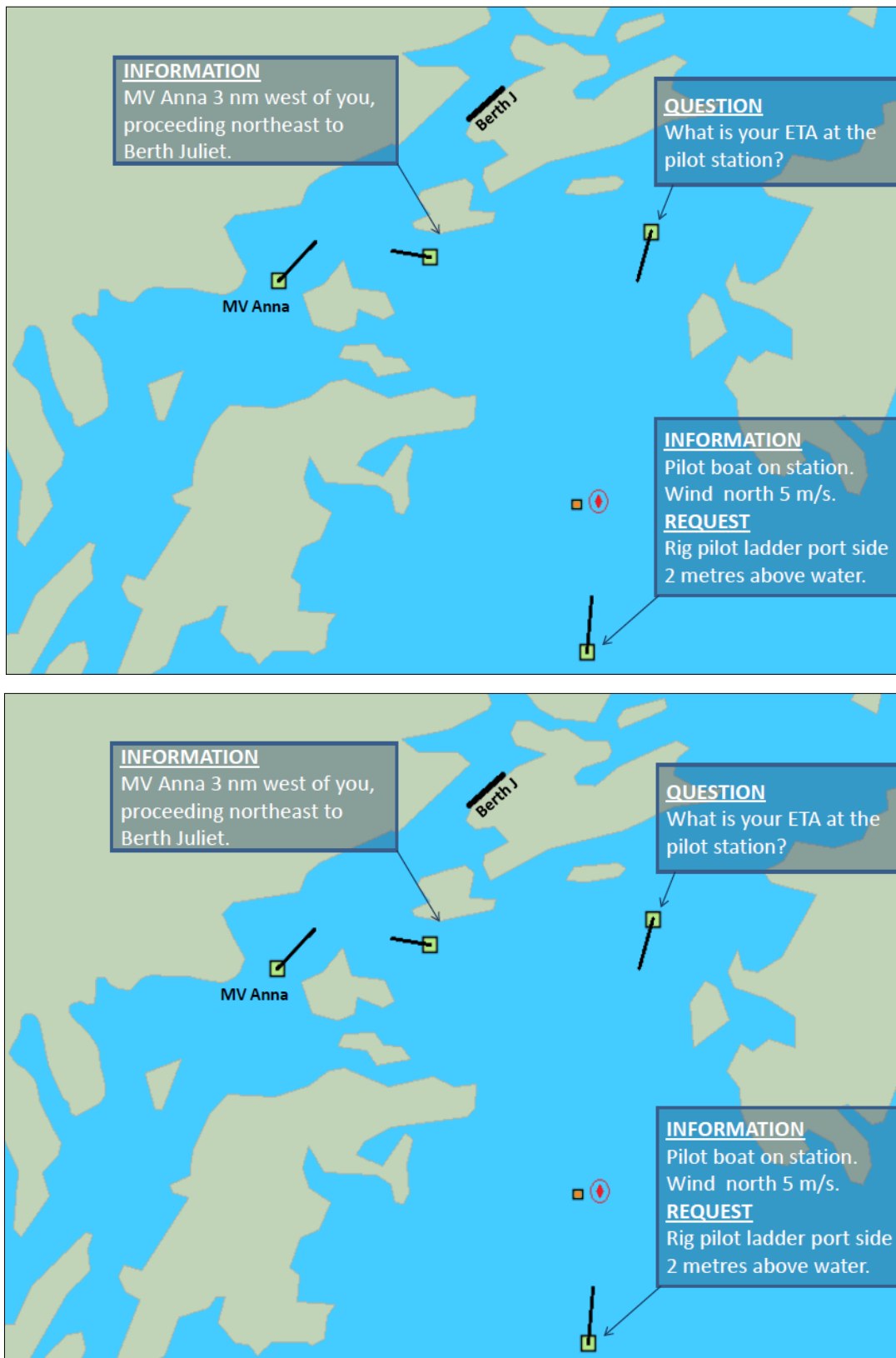


Figure 1 Examples of VHF communication from a VTS to ships, based on SMCP and message markers during INFORMATION SERVICE.

**TRAFFIC ORGANIZATION SERVICE (TOS)**

In this example the ship has requested “Traffic Clearance” and the VTS responds to it.

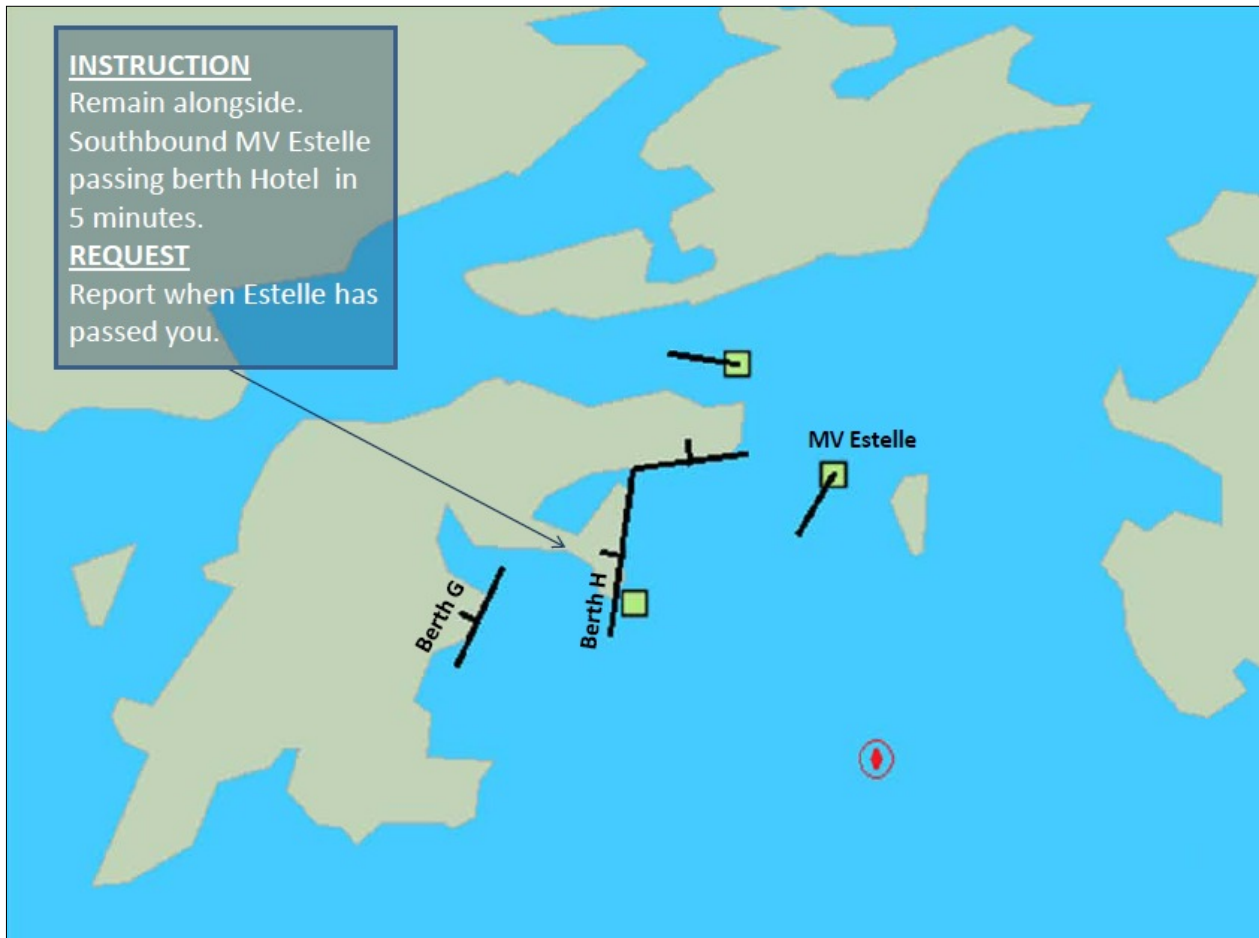


Figure 2 Example of VHF communication from VTS during TRAFFIC ORGANIZATION SERVICE

### NAVIGATIONAL ASSISTANCE SERVICE (NAS)

The picture shows three sequences where a situation is building up. Finally the situation becomes time critical and the communication will be urgent. However, the VTS operator should have the full authority to give an INSTRUCTION.



Figure 3 Example of VHF communication between VTS and ship during NAVIGATIONAL ASSISTANCE SERVICE

## **ANNEX B      EXAMPLES OF A VTS CHECKLIST FOR THE PROVISION OF NAVIGATIONAL ASSISTANCE SERVICE <sup>2</sup>**

**VTS (area, centre and operator):** .....

**VESSEL (name and call sign):** .....

### **Review:**

- 1 VTS operator competence/authorization
- 2 VTS equipment capabilities and limitations, performance, serviceability and back-up (particularly key elements of communications, radar and AIS)
- 3 Positive identification
- 4 Vessel's machinery status
- 5 Vessel's navigational and communications equipment status
- 6 Up-to-date charts
- 7 Master/Officer knowledge of English/local language
- 8 Master's knowledge of local area
- 9 Master's knowledge of NAS
- 10 Environmental conditions (wind, day/night, visibility, tidal height, tidal stream)
- 11 Traffic
- 12 Cargo

### **Assess and Decide:**

- 1 Alternative options such as provision of an on board pilot.
- 2 Capability of vessel to continue passage under NAS.
- 3 The risks involved if for any reason the VTS is not able to provide NAS .
- 4 Need for amendment to passage plan (such as a temporary anchorage).
- 5 Communications channel for provision of NAS.
- 6 The language proficiency of the vessel operator.

### **Agree:**

- 1 Master's understanding that NAS does not in any way absolve him from his responsibility for the safety of his vessel or for collision avoidance.
- 2 Master's acceptance to continue passage under NAS.
- 3 VHF channel.
- 4 Commencement of NAS.
- 5 Completion of NAS.

---

<sup>2</sup> This checklist is not exhaustive and is provided as an example, which should be modified and amplified with operational procedures as required for local conditions.