Document Revisions

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

**On**

**Provision of**

**Vessel Traffic Services**

(INS, NAS & TOS)

**Edition 1**

**[Date issued]**

**[Previous Edition; Date issued]**

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

International Association of Marine Aids to Navigation and Lighthouse Authorities

20ter, rue Schnapper

78100 Saint Germain en Laye, France

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

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



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](#_Toc304463704)

[Table of Contents 3](#_Toc304463705)

[Index of Tables 4](#_Toc304463706)

[Index of Figures 4](#_Toc304463707)

[1 introduction 5](#_Toc304463708)

[1.1 Objective 5](#_Toc304463709)

[2 Acronyms and Definitions 6](#_Toc304463710)

[3 GENERAL PROVISIONS 8](#_Toc304463711)

[3.1 Responding to traffic situations developing in the VTS area 8](#_Toc304463712)

[3.2 Equipment capabilities 8](#_Toc304463713)

[3.3 Staffing and training 8](#_Toc304463714)

[3.4 Legal 8](#_Toc304463715)

[3.5 Operational procedures 8](#_Toc304463716)

[3.6 Promulgation of information and types of services 9](#_Toc304463717)

[3.7 Communication 9](#_Toc304463718)

[3.7.1 Message markers 9](#_Toc304463719)

[4 Description of information service (INS) 12](#_Toc304463720)

[4.1 General 12](#_Toc304463721)

[4.2 Provision of Information Service 12](#_Toc304463722)

[4.2.1 Who may provide Information Service 12](#_Toc304463723)

[4.2.2 When Information Service may be provided 12](#_Toc304463724)

[4.2.3 Types of information used within an Information Service 12](#_Toc304463725)

[4.2.4 Where may Information Service be provided 13](#_Toc304463726)

[4.2.5 Methods of providing Information Service 13](#_Toc304463727)

[4.2.5.1 Message markers used within an Information Service 13](#_Toc304463728)

[5 Description of Navigational assistance service (NaS) 14](#_Toc304463729)

[5.1 General 14](#_Toc304463730)

[5.2 Provision of Navigational Assistance Service 14](#_Toc304463731)

[ 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. 14](#_Toc304463732)

[ Has a start and end time. 14](#_Toc304463733)

[5.2.1 Who may provide Navigational Assistance Service 14](#_Toc304463734)

[5.2.2 When Navigational Assistance Service may be provided 14](#_Toc304463735)

[5.2.3 Types of information used within a Navigational Assistance Service 15](#_Toc304463738)

[5.2.4 Where may Navigational Assistance Service be provided 15](#_Toc304463739)

[5.2.5 Interaction between a VTS and a vessel 16](#_Toc304463740)

[Master / Pilot / VTS Relationship 16](#_Toc304463741)

[5.2.6 Methods of providing Navigational Assistance Service 16](#_Toc304463742)

[5.2.5.1 Message markers used under a Navigational Assistance Service 16](#_Toc304463743)

[6 Description of Traffic Organisation Service (TOS) 17](#_Toc304463744)

[6.1 General 17](#_Toc304463745)

[6.2 Provision of Traffic Organisation Service 17](#_Toc304463746)

[6.2.1 Who may provide Traffic Organisation Service 17](#_Toc304463747)

[6.2.2 When Traffic Organisation Service may be provided 17](#_Toc304463748)

[6.2.3 Types of information used within a Traffic Organisation Service 17](#_Toc304463749)

[6.2.4 Where may Traffic Organisation Service be provided 18](#_Toc304463750)

[6.2.5 Methods of providing Traffic Organisation Service 18](#_Toc304463751)

[6.2.5.1 Message markers used within a Traffic Organisation Service 19](#_Toc304463752)

[7 REFERENCES 20](#_Toc304463753)

[ANNEX 1 Examples on the use of message markers 21](#_Toc304463754)

[ANNEX 2 EXAMPLE of a VTS CHECKLIST FOR THE PROVISION OF NAVIGATIONAL ASSISTANCE service1 29](#_Toc304463755)

Index of Tables

[Table 1 Message markers 9](#_Toc272359280)

Index of Figures

[Figure 1 Title required **Fel! Bokmärket är inte definierat.**](#_Toc216488874)

# introduction

The purpose of Vessel Traffic Services (VTS) is to improve 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.

Chapter V “Safety of Navigation” of the SOLAS 1974 Convention, Regulation V-12 “Vessel Traffic Services”, states, amongst other things, that:

*“Vessel traffic services contribute to safety of life at sea, safety and efficiency of navigation and protection of the marine environment, adjacent shore areas, work sites and offshore installations from possible adverse effects of maritime traffic.”*

*“Contracting Governments planning and implementing VTS shall, wherever possible, follow the guidelines developed by the Organization.”*

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

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

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 Organisation Service, or both.*”

The principles of vessel traffic services are governed by a hierarchy of regulatory requirements and guidelines. Key requirements and guidelines include:

1. SOLAS Regulation V-12 “Vessel Traffic Services”
2. IMO Resolution A.857(20) Guidelines for Vessel Traffic Services
3. ~~IMO Resolution A.851(20) General Principles for Ship Reporting Systems and Ship Reporting Requirements~~
4. ~~Resolution MSC.43(64) Guidelines and Criteria for Ship Reporting Systems~~
5. IMO Resolution A918(22) IMO Standard Marine Communication Phrases
6. IALA Vessel Traffic Services Manual (2008)

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

## Objective

The aim of this document is to provide guidance on the delivery of the different types of services given by a VTS such as Information Service, Navigational Assistance Service and Traffic Organisation Service. The guidelines also aim [to ensure consistency in the provision of the service worldwide in order to avoid confusion for the mariner trading between various jurisdictions about the delivery of VTS services].

# Acronyms and Definitions

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

|  |  |  |
| --- | --- | --- |
| ***Acronyms*** | | |
| *COG* | | Course over Ground |
| *IALA* | | International Association for Marine Aids to Navigation and Lighthouse Authorities |
| *IMO* | | International Maritime Organization |
| *ISPS* | | International Ship and Port Facility Security (Code) |
| *MSC* | | Maritime Safety Committee (Standing Committee of IMO) |
| *OOW* | | Officer of the Watch |
| *PSC* | | Port State Control |
| *SMCP* | | IMO Resolution A.918(22) IMO Standard Marine Communication Phrases |
| *SOG* | | Speed over Ground |
| *SOLAS* | | International Convention for the Safety of Life at Sea |
| *VTS* | | Vessel Traffic Services |
| *VTSO* | | Vessel Traffic Services Operator |
|  | | |
| ***General Definitions*** | | |
| *Competent Authority* | | The authority made responsible, in whole or in part, by the Government for safety, including environmental safety, and efficiency of vessel traffic and the protection of the environment.**1** |
| *Information Service (INS)* | | A service to ensure that essential information becomes available in time for on-board navigational decision-making.**1** |
| *Navigational Assistance Service (NAS)* | | A service to assist on-board navigational decision making and to monitor its effects.**1** |
| *Participating Vessel* | | 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.**1** |
| *Traffic Organisation Service (TOS)* | | A Traffic Organisation Service 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 VTS area.**1** |
| *Vessel Traffic Services (VTS)* | | 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.**1**Traffic Organisation Service |
| *VTS Authority* | | The authority with responsibility for the management, operation and coordination of the VTS, interaction with participating vessels and the safe and effective provision of the service.**1** |
| *VTS Centre* | | The centre from which the VTS is operated.**1** |
| *VTS Operator* | | An appropriately qualified person performing one or more tasks contributing to the services of the VTS.**1** |
| *VTS Traffic Image* | | The surface picture of vessels and their movements in a VTS area.**1** |
|  | |  |
|  | |  |
|  | |  |
| ***Course, Track and Heading Definitions*** | | |
| *Course* | | The intended direction of movement of a vessel through the water.**2** |
| *Course Made Good* | | 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. |
| *Course to Make Good* | | 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). |
| *Track* | | The path followed, or to be followed, between one position and another. **2** |
| *Heading* | | The horizontal direction of the vessel's bows at a given moment measured in degrees clockwise from north. **2** |
|  | |  |
|  | |  |
| **1** | IMO Resolution A.857(20) Guidelines For Vessel Traffic Services | |
| **2** | IMO Resolution A.918(22) IMO Standard Marine Communication Phrases | |

# GENERAL PROVISIONS

## 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 make decisions accordingly.

To respond to traffic situations developing in the VTS area and to decide upon 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.

## Equipment capabilities

Consideration should be given to the quality of the traffic image available, the communications capability and the equipment availability in determining to provide the specific service type. For further information refer to IALA Recommendation V-128 – *Operational and Technical Performance Requirements for VTS Equipment*.

## Staffing and training

It is important that VTS personnel should be trained and practiced in the delivery of the service type provided. In determining to provide VTS service types, the VTS/Competent Authorities should give careful consideration to:

* VTS staffing levels;
* The qualifications of VTS personnel and appropriate delegations/authorisations regarding the type of service they may provide.

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

## Legal

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

Instruction [and advice] by VTS personnel should be given under the regulatory powers and responsibilities of the VTS / Competent Authorities.

## Operational procedures

All details for the provision of any type of service, including the terminology used, should be contained in the Standard Operating Procedures (SOP) 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.*

## Promulgation of information and types of services

The services offered to the mariner by a VTS should be promulgated to vessels in the appropriate internationally recognised marine publications, including the IALA World VTS Guide and locally produced User Guides or Manuals. This should include details of the VTS area, its capabilities, types of service provided, rules, regulations, requirements and procedures. The information promulgated should be verified and up-dated at least at annual intervals.

## Communication

In any VTS message directed to a vessel or vessels it should be made clear whether the message contains information, advice, warning, or an instruction.

A fundamental principle of VTS communications is that any communication 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. 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.

IMO Standard Marine Communication Phrases should be used wherever practicable.

## Message markers

There are eight types of communication message markers that are frequently used 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.

It is recommended that message markers are used when providing Vessel Traffic Services. However, it is at the discretion of the VTS or the bridge team which marker is applicable to the situation. If used, the message marker is to precede the message or the corresponding part of the message.

1. Message markers [[1]](#footnote-1)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Message Markers*** | ***Description*** | ***Service types*** | | |
| ***INS*** | ***NAS*** | ***TOS*** |
| *Information* | This indicates that the following message is restricted to observed facts, situations  ***Note:*** *This marker is preferably used for navigational and traffic information, etc. Consequences of INFORMATION will be up to the recipient* | X | X | X |
| *Warning* | This indicates that the following message implies the intention of the sender to inform others about danger  ***Note:*** *This means that any recipient of a WARNING should pay immediate attention to the danger mentioned. Consequences of a WARNING will be up to the recipient.* | X | X | X |
| *Advice* | This indicates that the following message implies the intention of the sender to influence others by a recommendation.  The provision of advice includes a professional opinion.  ***Note****: The decision whether to follow the ADVICE still stays with the recipient. ADVICE does not necessarily have to be followed but should be considered carefully.* | (X) | X | X |
| *Instruction* | This indicates that the following message implies the intention of the sender to influence others by a Regulation.  ***Note:*** *This means that the sender, e.g. a VTS Station or a naval vessel, must have full authority to send such a message. The recipient has to follow this legally binding message unless he/she has contradictory safety reasons which then have to be reported to the sender.* | - | (X)[[2]](#footnote-2) | X |
| *Question* | This indicates that the following message is of an interrogative character.  ***Note:*** *The use of this 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. The recipient is expected to return an answer.* | X | X | X |
| *Answer* | This indicates that the following message is the reply to a previous question.  ***Note:*** *An answer should not contain another question.* | X | X | X |
| *Request* | This indicates that the following message is asking for action from others with respect to the vessel.  ***Note:*** *The use of this marker is to signal: I want something to be arranged or provided, e.g. ship´s stores requirements, tugs, permission, etc.* | X | X | X |
| *Intention*  *(only by the vessel)* | This indicates that the following message informs others about immediate navigational action intended to be taken.  ***Note:*** *The use of this message marker is logically restricted to messages announcing navigational actions by the vessel sending this message.* |  |  |  |

For more information see the IMO Resolution A.918(22) *IMO Standard Marine Communication Phrases*.

# Description of information service (INS)

## General

An Information Service provides relevant information at appropriate times 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:

* 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 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.

## Provision of Information Service

## Who may provide Information Service

Any person who is serving in a VTS centre and that is appropriately qualified, trained and assessed as competent, may provide Information Service.

## When Information Service may be provided

Information Service may be provided:

* when broadcasting information at fixed times and intervals;   
  The broadcast may ideally be sent out at fixed times and intervals so that the mariners know when to pay special attention. The schedule for the broadcasting times should be promulgated in the appropriate navigational publications. Information may also be broadcasted at irregular hours when broadcasting warnings and safety related messages
* when deemed necessary by the VTS; or
* when the vessel has requested information.

## Types of information used within an Information Service

The following represents examples of information that may be given by the VTS within an Information Service:

|  |  |
| --- | --- |
| **Types of information:** | **Examples:** |
| Electronic navigational aids information | The availability of electronic navigational aid such as: GNSS, Loran, LRIT, DGPS, AIS shore base stations, RACON, Satellite AIS, etc. |
| Hydrographic information | 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. |
| Meteorological information | 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. |
| Navigational information  (including traffic and route information) | The 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 maneuverability that may impose restrictions on the navigation of other vessels, or any other potential hindrances; suspension or change of routes; etc. |
| Navigational warnings | Dangerous wrecks, obstacles not otherwise promulgated, diving operations, vessels not under command, etc. |
| Other information | Port information, pilot or tug request, cargo information, health condition, PSC, ISPS, etc. |

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

## Where may Information Service be provided

An Information Service should be provided within the declared VTS area.

[See picture in Annex xx]

## Methods of providing Information Service

While VHF may be the primary mean of providing information any available means may be used.

## Message markers used within an Information Service

When providing Information Service the following message markers may be used:

INFORMATION

WARNING

ADVICE

QUESTION

ANSWER

REQUEST

Instruction as a message marker should not be used in an Information Service.

Examples of the use of the message markers may be found in annex X.

# Description of Navigational assistance service (NaS)

## General

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

The Navigational Assistance Service is especially important in difficult navigational or

meteorological circumstances or in case of defects or deficiencies. (IMO)

A Navigational Assistance Service is an important supplement to the provision of other navigational services and it may be provided at the request of a vessel or when a navigational situation is observed and intervention by 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 found at Annex 1, which should be modified as required for local requirements.

## Provision of Navigational Assistance Service

It is recommended that Navigational Assistance Service:

* 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.
* Has a start and end time.

The Navigational Assistance Service may be initiated in response to traffic and navigational safety situations developing in the VTS area. It is important that information to assist the onboard decision making is provided in a timely manner. It should be clearly understood by both parties and is not open to misinterpretation to minimise the risk of unexpected and dangerous reactions.

## Who may provide Navigational Assistance Service

Any person who is serving in a VTS centre that is appropriately qualified, trained and assessed as competent, may provide Navigational Assistance Service.

## When Navigational Assistance Service may be provided

Navigational Assistance Service may be provided as follows:

* When deemed necessary by the VTS

Navigational Assistance Service may be provided when the VTS observes a developing situation (e.g. a vessel deviating from a recommended route) and deems it necessary to interact with the bridge team.

* When the vessel has requested the service.

Navigational Assistance Service may be provided 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 risks involved.

The provision of Navigational Assistance Service does not absolve the master from his responsibility for the safety of his own ship; in particular the master should be made aware of the limitations on VTS equipment and the specific responsibilities of the master for collision avoidance.

Examples of developing situations where a Navigational Assistance Service may be requested or deemed necessary by the VTS include:

* Risk of grounding;
* Vessel deviating from the recommended track or sailing 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 navigational or manoeuvring equipment casualty;
* Inclement conditions (e.g. low visibility, high winds);
* Potential collision between vessels;
* Potential collision with a fixed object or hazard;
* Assistance to a vessel to support the unexpected incapacity of a key member of the bridge team.

## Types of information used within a Navigational Assistance Service

The following represents examples of information which may be given by a VTS within a Navigational Assistance Service:

|  |  |
| --- | --- |
| **Types of information:** | **Examples:** |
| Request and identification | Availability of NAS; ship requires NAS or VTS deems it necessary; start and end of NAS; request for ship identification such as position, course made good and speed over the ground; status of ship's equipment; etc. |
| Navigational information  (including position and course information) | Provide range and bearing from fixed objects, fairway/channel or way-points; proximity to navigational hazards, etc.  Provide information related to navigating into a channel/fairway/lane (ie track is parallel/diverging/converging with/from/to reference line); etc.  navigational information of other vessels such as position, intention, course and speed, CPA,TCPA; any restrictions of surrounding traffic; etc. |
| Advice or instruction | Suggest or instruct a ship to alter the course, speed; request to keep clear from area/position, close up/drop back on/from vessels; etc. |
| Navigational warnings | Diverging from the recommended track, dangerous wrecks, obstacles not otherwise promulgated, diving operations, vessels not under command, etc. |

*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*.

## Where may 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 where NAS is deemed necessary.

[See picture in Annex xx]

## Interaction between a VTS and a vessel

### Master / Pilot / VTS Relationship

Where a VTS provides Navigational Assistance 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 or otherwise interfere with the bridge team operations.

Further, masters of vessels and pilots should be aware of their responsibilities in receiving communications using IMO Resolution A.918(22) *IMO Standard Marine Communication Phrases* (SMCP) message markers.

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.

## Methods of providing Navigational Assistance Service

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

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. However, an assessment should be made of the relative 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 mean of providing Navigational Assistance Service any available means may be used.

## Message markers used under a Navigational Assistance Service

When providing Navigational Assistance Service the following message markers may be used:

INFORMATION

WARNING

ADVICE

QUESTION

ANSWER

REQUEST

INSTRUCTION

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.

# Description of Traffic Organisation Service (TOS)

## General

Traffic Organisation Service 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.

## Provision of Traffic Organisation Service

## Who may provide Traffic Organisation Service

Any person who is serving in a VTS centre that is appropriately qualified, trained and assessed as competent, may provide Traffic Organisation Service.

## When Traffic Organisation Service may be provided

Traffic Organisation Service may be provided when the VTS is authorised to provide the service and:

* when vessel movements need to be planned or prioritised to prevent congestion and dangerous situations;
* when special transports or vessels with hazardous or polluting cargo may effect the flow of other traffic and need to be organised;
* when traffic clearances need to be given;
* when the VTS observes a developing situation and deems it necessary to interact and direct vessel movements.

Traffic Organisation Service concerns the operational management of traffic and the planning of vessel movements to prevent congestion and development of dangerous situations, and is particularly relevant in times of high traffic density or when the movement of special transports may effect the flow of other traffic. The service may also include establishing and operating a system of traffic clearances or VTS sailing plans or both in relation to priority of movements, allocation of space, mandatory reporting of movements in the VTS area, routes to be followed, speed limits to be observed or other appropriate measures which are considered necessary by the VTS authority.

## Types of information used within a Traffic Organisation Service

The following represents examples of situations and information that may be provided by the VTS within a Traffic Organisation Service:

|  |  |
| --- | --- |
| **Types of information:** | **Examples:** |
| Clearance and/or  eventually condition | Give authorisation under conditional circumstance to the vessels to enter/leave to/from berth or anchorage position or proceed into the fairway.  Request/instruction condition to enter a VTS area:   * a VTS passage plan before entering a VTS area; * report position at determined reporting point/line/pilot station; * use a second fairway to enter/leave in case of bad visibility/weather; * use a tug boat in case of strong wind; * etc. |
| Anchoring | Information regarding:   * the management of the movements to/from an anchoring position; * assignment of a anchorage position; * Monitoring anchoring position; etc. |
| Enforcement | VTS Authority may have the power to enforce the application of the rules of the road and possibly local bylaws; |
| Waterway (sea, channels and fairway) information | Information regarding:   * the use of one way traffic as an alternative of two way traffic, determined by the dimensions of ship or weather conditions; * point of no return; * anchorages (establish the anchoring position/area based on ships, cargo and environmental factors); * slot management to allocate ships in a time window; * channel fairway dimensions; * ship safety zone in case of particular operations; * exclusion zone in a sensitive geographic area; * daylight restrictions; * authorisation of ship movements; * control of arrivals and departures; * etc. |
| Ship actions | Information regarding:   * request/instruction to alter course and/or speed; * request/instruction of keep clear from area/position; * request/instruction of close up/drop back on/from other vessels; * fairway speed limitation; * overtaking permitted/not permitted; * etc. |

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

*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*.

## Where may Traffic Organisation Service be provided

Traffic Organisation Service should be provided within the declared VTS area and/or in specified areas or sectors within the VTS area where Traffic Organisation Service is deemed necessary.

[See picture in Annex xx]

## Methods of providing Traffic Organisation Service

While VHF may be the primary mean of providing Traffic Organisation Service any available means may be used.

## Message markers used within a Traffic Organisation Service

When providing Traffic Organisation Service the following message markers may be used:

INFORMATION

WARNING

ADVICE

INSTRUCTION

QUESTION

ANSWER

REQUEST

INSTRUCTION as a message marker should only be provided when the VTS Operator has been given the authority to use it within the Traffic Organisation Service.

# REFERENCES

[1] SOLAS Regulation V-12 *Vessel Traffic Services*

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

~~[3] IMO Resolution A.851(20) General Principles for Ship Reporting Systems and Ship Reporting Requirements~~

[4] IMO Resolution A.918(22) *IMO Standard Marine Communication Phrases*

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

[6] IALA VTS Manual (2008)

[7] IALA Recommendation V-128 – *Operational and Technical Performance Requirements for VTS Equipment Edition 3.0*

[8] IALA Recommendation V-103 - VTS Operator training

IALA Guidelines 1045 on Staffing Levels at VTS Centres

1. Examples on the use of message markers

|  |  |  |  |
| --- | --- | --- | --- |
| **Examples of situations** | **Service types** | | |
| **INS** | **NAS** | **TOS** |
| A vessel is approaching the VTS area | **INFORMATION:** Traffic clearance is required before entering the VTS area |  | **INFORMATION:** You have permission to enter the VTS area  **INFORMATION:** You are cleared to enter the VTS area |
| **INFORMATION:** Buoy number xxx unlit.  **ADVICE:**  All vessels are advised to keep sharp lookout.  **INFORMATION:** DGPS station is not operational. |  | **INSTRUCTION:** In this weather condition you are required to use one tug boat. (The operator may use marker ADVICE, depending on the situation or local regulations) |
| **INFORMATION:** Received gale warning, expected strong wind gusts at 16 30.  **QUESTION:** Do you require tugs or other assistance? | **INSTRUCTION:** Reduce speed to 8 knots. Change course to 176 degrees. | **ADVICE:** Leave buoy number xxx on your starboard side, keep clear of the vessel, anchored to the West of the buoy. |
| **QUESTION:** Which channel do you intend to use?  **INFORMATION:** Speed limit for this channel is 8 knots.  **REQUEST:** When abeam of buoy number xxx report Your position. | **INSTRUCTION:** Do not enter this area. | |
| **WARNING:** There is a restricted area south of you, distance 12 cables. | **ADVICE:** Change course to xxx degrees and proceed to the anchorage area. | **INSTRUCTION:** Do not enter the approach channel. (The operator may use marker ADVICE, depending on the situation or local regulations) |
|  | **WARNING:** Visibility in the approach channel is less than ..... cables. |  |  |

Ex: Vessels deviating from its route

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Examples of situations** | **Time** | **Service types** | | |
| **INS** | **NAS** | |
| A vessel is steering out of the fairway/ or steering towards shallow waters. | 00-00  *time permitting*  END | **INFORMATION**: VTS equipment indicates that you are heading towards shallow waters, within xx minutes.  **QUESTION:** What are your intentions?  **INFORMATION**1: Safe water is in bearing xxx degrees from you  **INFORMATION**1: Safe water is north of you  **QUESTION:** Have you altered course? | | |
|  | *Comments:  A ) If there is time - acceptance from the ship will then be done.*  *B) If there isn’t time for an acceptance from the vessel, the operator continues to provide NAS.* | |
| **ADVICE1:** Safe water is in bearing xxx degrees from you  **WARNING:** Shallow waters2 cables ahead of you.  **ADVICE2:** True course to safe waters**,** xxx degrees  **ADVICE2:** Recommended course make good xxx degrees  **ADVICE3:** Recommended course xxx degrees | | |
|  | | *Comments: A)The operator informs the vessel when NAS has ended.*  *B) After providing NAS without an acceptance from the vessel the operator should inform the vessel about it.* |
|  |  | **INFORMATION:** You are now in a safe position.  **INFORMATION:** You are clear from the shallow area. | | |

Examples when entering the port area

|  |  |  |  |
| --- | --- | --- | --- |
| **Examples of situations** | **Service types** | | |
| **INS** | **NAS** | **TOS** |
| A vessel is approaching the port within a VTS area. | **INFORMATION:** Your berth is free, pilot is available. | **ADVICE:** Keep course over ground 245 degrees. Abeam of the turning buoy change course to South to 178 degrees. Pilot boarding speed 6 knots. | **INFORMATION:** You have permission to proceed to the pilot boarding position. |
| **INFORMATION:** Your berth is occupied | **INSTRUCTION:** Your anchorage position is Latitude 43 degrees 08.0 minutes N Longitude 027 degrees 57.5 minutes E. Keep course over ground 180 degrees. | **INFORMATION:** You have to stay adrift or drop anchor.  **QUESTION:** What is your intention?  **ADVICE:** Proceed to anchorage area number two, minimum distance to other vessels four cables. |
| **INFORMATION:** Vessel "xxx" carrying out survey in vicinity of turning buoy. Wide berth requested. Buoy number xxx unlit. |  | **INSTRUCTION:** When proceeding to the anchorage leave the turning buoy on your port side. Minimum distance to scientific research vessel five cables. |
| **WARNING**: According to my equipmentyour anchorage position has changed five cables to east | | |
|  |  | **ADVICE:** Check your position and make sure the anchor is not drifting. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Examples of situations** | **Time** | **Service types** | | |
| **INS** | **TOS** | |
| Vessel is overtaking another vessel in a narrow channel |  | **INFORMATION**: Vessel ahead of you  **INFORMATION**: Vessel xxx will pass buoy 10 in xx minutes. | | |
| **INFORMATION:** According to my equipment, you will overtake vessel xxx close to buoy nr 20.  **REQUEST**: Recommend contact with vessel xxx to agree on the position for the overtaking | **ADVICE:** Do not overtake the vessel ahead of you before buoy nr. 25. | |
|  | **INSTRUCTION:** Do not overtake the vessel ahead of you before vessel xxx has passed buoy 18  **INSTRUCTION:** Do not pass the position xxx before UTC/LT. | *Comments: If two vessels are not allowed to pass or overtake each other in the area, the VTS operator may use message marker INSTRUCTION.* |

|  |  |  |  |
| --- | --- | --- | --- |
| **Examples of situations** | **Service types** | | |
| **INS** | **TOS** | |
| Two meeting vessels are heading to a narrow area or channel, where it could be risk of near passage/collision. | **INFORMATION:** Vessel xxx will pass buoy 10 in xx minutes. | | |
| **INFORMATION:** According to my equipment, you will meet vessel xxx close to buoy nr 20.  **REQUEST**: Recommend to contact, vessel xxx to arrange the position for the meeting. | **ADVICE:** Do not pass buoy18 before vessel xxx has passed.  ADVICE: | |
|  | **INSTRUCTION:** Do not pass buoy 18 before vessel xxx has passed.  **INSTRUCTION:** Do not pass position xxx before UTC/LT. | *Comments: If two vessels are not allowed to meet in the area then the operator can use message marker INSTRUCTION.* |

|  |  |
| --- | --- |
| **Examples of situations** | **Service types** |
| **NAS** |
| Vessel requesting Navigational Assistance Service | **INFORMATION:** Navigational Assistance begins now [to guide you to safe water]  **QUESTION:** What is your course?  **INFORMATION:** VTS radar/equipment indicates you are x cables N/S/E/W of centreline  **INFORMATION:** VTS radar/equipment indicates that you are outside of the fairway.  **ADVICE:** True course to safe water is xxxº  **ADVICE:** Keep buoy/lighthouse on your port/starboard side  **ADVICE:** Pass buoy/lighthouse on N/S/E/W side  **WARNING:** According to my equipment you are diverging from the recommended track  **ADVICE:** Follow the recommended track  **INFORMATION:**Navigational Assistance Service ends [at XX:xx UTC] |

|  |  |  |  |
| --- | --- | --- | --- |
| **Examples of situations** | **Service types** | | |
| **INS** | **NAS** | **TOS** |
|  |  |  |  |
|  |  |  |

[Inserted but not assessed...]

#### 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 VTSO is included, other than the determination by the VTSO 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.

Examples of the provision of an INFORMATION Message during the delivery of Navigational Assistance to a vessel include:

Course and speed over the ground by a vessel;

Position relative to fairway axis, navigational features and/or way-points;

Proximity to navigational hazards; and

Positions, identities, intentions and any restrictions of surrounding traffic.

For example:

|  |  |
| --- | --- |
| Example 1 | “INFORMATION, According to my equipment, vessel “No Name” will overtake you on your starboard side in the vicinity of Buoy “….”. |
| Example 2 | “INFORMATION, Next high water at Port “YY” predicted to be “….” at a height of “ZZ” metres. |

#### WARNING

The provision of information during the delivery of Navigational Assistance may also include Warnings. 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 VTSO, the message should be communicated to inform a vessel about potential danger.

The contents of a Warning Message should be immediately assessed onboard the vessel in conjunction with any additional information which 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. Examples of the provision of a Warning Message during the delivery of Information Service to a participating vessel include:

|  |  |
| --- | --- |
| Example 1 | "WARNING. Obstruction in the fairway. Submerged container …. degrees, distance …. meters from …. buoy.” |
| Example 2 | “WARNING. According to my equipment you are running into shallow water.” |
| Example 3 | “WARNING. According to my equipment, you will pass close to the outgoing vessel bearing …… degrees distance … nautical miles.” |

#### 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 VTSO 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;
  + An assessment of the implications of the cargo carried.

Examples of the provision of ADVICE during the delivery of Navigational Assistance to a participating vessel include:

|  |  |
| --- | --- |
| Example 1 | “WARNING. According to my equipment, you are diverging from 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 shallow water, distance ...”  “ADVICE. Recommend course … 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 authorised by the competent 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 authorising VTS personnel to issue ADVICE and the competence of staff to give it.

#### QUESTION

#### ANSWER

#### REQUEST

#### INTENTION

1. EXAMPLE of a VTS CHECKLIST FOR THE PROVISION OF NAVIGATIONAL ASSISTANCE service1

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

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

**Review:**

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

**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.

**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

**1** 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.

1. Extracted from IMO Resolution A.918(22) IMO Standard Marine Communication Phrases [↑](#footnote-ref-1)
2. The VTSO should have been given the authority to use Instruction. [↑](#footnote-ref-2)