

**RESOLUTION A.578(14)**

*Adopted on 20 November 1985  
Agenda item 10(b)*

**GUIDELINES FOR VESSEL TRAFFIC SERVICES**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

RECALLING ALSO resolution A.158(ES.IV) entitled "Recommendation on Port Advisory Services" and resolution A.531(13) entitled "General Principles for Ship Reporting Systems",

BEARING IN MIND that Member Governments are responsible for the safety of navigation and the prevention of pollution in areas under their jurisdiction,

BEING INFORMED that vessel traffic services have been provided in a number of areas and have made a valuable contribution to safety of navigation, improved efficiency of traffic flow and reduced risk of pollution,

BEING ALSO INFORMED that a number of Governments and international organizations have requested guidance on vessel traffic services,

RECOGNIZING that the level of safety and efficiency in the movement of maritime traffic within a vessel traffic service area is dependent upon close co-operation between those operating the vessel traffic service and participating vessels,

RECOGNIZING ALSO that the use of differing vessel traffic service procedures may cause confusion to masters of vessels moving from one vessel traffic service area to another,

RECOGNIZING FURTHER that the safety and efficiency of maritime traffic would be improved if vessel traffic services were established and operated in accordance with internationally approved guidelines,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its fifty-first session,

1. ADOPTS the Guidelines for Vessel Traffic Services set out in the Annex to the present resolution;
2. URGES Member Governments to ensure that vessel traffic services within their territorial seas are operated in accordance with national law and do not prejudice the right of innocent passage through such waters and to ensure that vessels outside territorial seas are able to use, on a voluntary basis, the service provided;
3. RECOMMENDS Member Governments to encourage masters of vessels navigating in an area for which a vessel traffic service is provided to make use of such service.

## ANNEX

### GUIDELINES FOR VESSEL TRAFFIC SERVICES

#### PREAMBLE

1 These Guidelines describe operational procedures and planning for vessel traffic services (VTS). The Guidelines do not address liability or responsibility - which should be considered by the authority establishing a VTS - nor do they create new rights to enact legislation which impose requirements on shipping.

2 VTS authorities are urged to ensure that vessel traffic services within territorial seas are operated in accordance with national law and do not prejudice the right of innocent passage through such waters and to ensure that vessels outside territorial seas are able to use, on a voluntary basis, the service provided.

3 No provision of these Guidelines shall be construed as prejudicing obligations or rights of vessels established in other international instruments.

4 VTS authorities or those planning VTS are recommended to follow these Guidelines, as appropriate to their needs, in the interests of international harmonization and improving maritime safety.

5 These Guidelines describe the possible functions of VTS and provide guidance for designing and operating VTS once it has been decided that such a system, whether simple or highly sophisticated, is necessary. They further aim at international harmonization and address the procedures used by VTS taking into account current practice. They are based on relevant recommendations and resolutions adopted by the Organization, in particular Assembly resolution A.531(13) entitled "General Principles for Ship Reporting Systems".

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## CHAPTER 1 – OBJECTIVES AND PROCEDURES

### 1 VESSEL TRAFFIC SERVICES

A VTS is any service implemented by a competent authority, designed to improve safety and efficiency of traffic and the protection of the environment. It may range from the provision of simple information messages to extensive management of traffic within a port or waterway.

1.1 The reasons for establishing a VTS may include:

- assistance to navigation in appropriate areas;
- organization of vessel movements to facilitate an efficient traffic flow in the VTS area;
- handling of data relating to ships involved;
- participation in action in case of accident;
- support of allied activities.

1.2 A VTS is particularly appropriate in the approaches to a port, in its access channels and in areas having one or more of the following characteristics:

- high traffic density;
- traffic carrying noxious or dangerous cargoes;
- navigational difficulties;
- narrow channels;
- environmental sensitivity.

### 2 VTS AUTHORITY

2.1 **VTS authority** is the authority operating a VTS. It may include a governmental maritime administration, a single port authority, a pilotage organization or any combination of them.

2.1.1 The authority establishing a VTS should delineate its area of coverage, declare it a VTS area and disseminate to mariners full details concerning the area of operation, including the limits of the areas where participation of vessels is required or recommended, the services provided and the procedures to be followed (see section 5). It should also state the classes of ship which are required or recommended to participate and indicate the VTS centres responsible for the VTS tasks.

2.1.2 The authority should establish appropriate qualifications and training requirements for VTS operators in accordance with section 6.

2.1.3 The VTS authority should ensure that the effects of vessel traffic services, routing, aids to navigation, pilotage, etc. are fully integrated.

2.1.4 The VTS authority should in general limit the functions of a VTS operating outside port areas and their approach channels to those of providing an information service and navigational assistance service to vessels for the purposes of safety of navigation or the protection of the environment.

2.1.5 Care should be taken that VTS operations do not encroach upon the master's responsibility for the safe navigation of his vessel, or disturb the traditional relationship between master and pilot.

2.1.6 When planning or designing a VTS, the authority should take into account the factors and criteria of chapter 2.

### 3 ELEMENTS OF A VTS

#### 3.1 General

A VTS consists of the following elements:

- VTS organization;
- vessels using VTS;
- communications.

#### 3.2 VTS organization

3.2.1 The VTS organization should be equipped with communications facilities and, where appropriate to the tasks performed by the VTS, have surveillance radar and other equipment. The VTS organization should be equipped to use the appropriate frequencies, as prescribed in appendix 18 of the Radio Regulations, including the international distress, safety and calling frequencies.

3.2.2 VTS centres are centres from which VTS are operated.

3.2.3 VTS operators are the appropriately qualified persons who perform the functions of the VTS (see section 4).

#### 3.3 Vessels using a VTS

3.3.1 1974 SOLAS Convention vessels participating in a VTS will be fitted with navigational and communications equipment in accordance with chapters IV and V of that Convention, as amended.

3.3.2 The decisions concerning the actual navigation and manoeuvring of the vessel remain with the master. Neither the sailing plan (see paragraph 5.3.1) nor requested or instructed changes to the sailing plan can supersede the decisions of the master concerning the actual navigation and manoeuvring of the vessel, if such decisions are required according to his judgement by the ordinary practice of seamen or by the special circumstances of the case.

3.3.3 If voluntary or compulsory pilotage exists in the VTS area, pilotage plays an important role in such a VTS. The function of a pilot is to provide the master with:

- assistance in manoeuvring his vessel;
- local knowledge both concerning navigation and national and local regulations; and
- assistance with ship/shore communications, particularly where there are language difficulties.

### **3.4 Communications**

3.4.1 Communications between the VTS centre and the ship should be established and follow the appropriate communication procedures of the Radio Regulations. These communications generally involve VHF radio links which can be duplicated or complemented, for example with traffic signals. The number of appropriate channels required should be kept to a minimum but will depend upon the density of radio traffic.

3.4.2 The language used should enable the VTS authority and the ship to understand each other clearly.

3.4.3 In local areas the primary language may be the appropriate working language of the country where the system is established, but English should be used where language difficulties exist, in particular where requested by the master or VTS operator. For services established in areas where there are ships of many nationalities, English may be designated as the working language.

3.4.4 The IMO Standard Marine Navigational Vocabulary should be used where possible.

## **4 FUNCTIONS OF A VTS**

### **4.1 General**

The functions of a VTS may include:

- data collection;
- data evaluation;
- information service;
- navigational assistance service;
- traffic organization service;
- support of allied activities.

### **4.2 Data collection**

Data collection may include:

- gathering data on the fairway and traffic situation by appropriate equipment, e.g. hydrological and meteorological sensors, radar, VHF direction finder, etc.;
- maintaining a listening watch on the designated maritime safety and distress frequencies;
- receiving ships' reports;
- obtaining reports on ships' conditions with regard to hull, machinery, equipment or manning and where relevant on hazardous or noxious cargo carried.

### **4.3 Data evaluation**

Data evaluation may include:

monitoring the manoeuvres of ships for compliance with international, national and local requirements and regulations;

interpreting the total traffic situation and its developments;

monitoring the fairway situation (hydrological and meteorological data, aids to navigation);

co-ordinating the information flow and distributing relevant messages to the participants or organizations concerned;

collating information for statistical purposes.

#### **4.4 Information service**

An information service is a service provided by broadcasting information at fixed times, or at any other time if deemed necessary by the VTS centre, or at the request of a vessel and may include:

broadcasting information about the movement of traffic, visibility conditions or the intentions of other vessels, in order to assist all vessels, including small craft that are participating in the VTS only by keeping a listening watch;

exchanging information with vessels on all relevant safety matters (notices to mariners, status of aids to navigation, meteorological and hydrological information, etc.);

exchanging information with vessels on relevant traffic conditions and situations (movements and intentions of approaching traffic or traffic being overtaken);

warning vessels about hindrances to navigation such as hampered vessels, concentrations of fishing vessels, small craft, other vessels engaged in special operations, and giving information on alternative routeing.

#### **4.5 Navigational assistance service**

A navigational assistance service is a service given at the request of a vessel or, if deemed necessary, by the VTS centre, and may include assistance to vessels in difficult navigational or meteorological circumstances or in case of defects or deficiencies.

#### **4.6 Traffic organization service**

This is concerned with the forward planning of movements in order to prevent the development of dangerous situations and to provide for the safe and efficient movement of traffic within the VTS area, which may be accomplished on the basis of sailing plans. This service may include:

establishing and operating a system of traffic clearance and reports for specific movements and conditions, or establishing the order of movement;

scheduling vessel movements through special areas such as those in which one-way traffic is established;

establishing routes to be followed and speed limits to be observed;

designating a place to anchor;

organizing vessel movements by means of advice or instructions, such as requiring a vessel to remain in or proceed to a safe position or other appropriate measure, whenever the safety of life or protection of the environment or of property warrants it.

#### **4.7 Support of allied activities**

Support of allied activities may include:

co-ordinating the information flow and distributing the relevant messages to the participants or organizations concerned;

supporting activities allied to those of the VTS authority such as pilotage services, port services, maritime safety, pollution prevention and control and search and rescue;

calling upon and requesting action by rescue and emergency services and, if appropriate, participating in the actions of these services.

## **5 PROCEDURES**

### **5.1 General**

5.1.1 Every VTS authority should establish and apply procedures based on these Guidelines to the extent required by its functions and needs.

5.1.2 Every vessel participating in a VTS on a voluntary or compulsory basis should as far as possible follow the procedures applicable to that VTS.

5.1.3 Reporting procedures should be clear and simple and should contain only essential information so as to avoid imposing an undue burden on masters, officers of the watch and pilots.

5.1.4 When detailed and extensive information has to be exchanged with one ship which is not relevant to other ships, the VTS operator may decide to communicate with that ship on an alternative VHF channel.

5.1.5 To avoid an unnecessary repetition of information by the ship, basic information should be reported once, be retained in the system and be supplemented or updated according to requirements and should be made available to shore services as appropriate.

5.1.6 All ships participating in a VTS should, unless otherwise permitted by the VTS authority, maintain a continuous listening watch on the appropriate frequency of the VTS. This listening watch should be kept at the position from which the ship is navigated.

#### **5.1.7 *Status of the message***

Any VTS message directed to a vessel should make it clear whether it contains information, advice or instruction.

#### **5.1.8 *Information broadcast by VTS***

The times of regular broadcasts of VTS bulletins should be clearly published in relevant

nautical publications and should take account of the transmission times of neighbouring VTS centres. They should be drawn up in a standard format and should only contain essential information (see section 7). Bulletins broadcast in special circumstances should be prefaced by an appropriate announcement. Information can also be requested by a vessel.

## 5.2 Initial contact - identification

5.2.1 Generally, the ship contacts the VTS centre by VHF and this is the first direct link between the ship and the VTS. This initial exchange of data enables the ship to provide certain preliminary information, where appropriate (see paragraph 5.2.2.). It also enables the ship to request certain specific data from the VTS operator. In most cases a ship will identify itself in its dialogue with the VTS operator. This identification may be assisted by technical means such as shore-based radar or VHF direction finder.

5.2.2 A vessel's arrival in a port area is normally anticipated, as the agent will have given an estimated time of arrival (ETA) and requested a berth or anchorage. In the case of vessels carrying dangerous substances, MSC/Circ.299 (December 1980) on "Safe transport, handling and storage of dangerous substances in port areas", which recommends notification of specific information, should be followed as well as any local rules that may be applicable.

## 5.3 Reporting within a VTS

Ships participating in a VTS should report, if required, at the designated positions and times in accordance with the agreed reporting format. As far as practicable, the master should ensure correct and timely reporting. Vessels not required to report but wishing to avail themselves of the services offered by the VTS should follow the relevant procedures. The types of report and the format described in the General Principles for Ship Reporting Systems\* should be used where necessary within the VTS procedures. Not all types of report described below are relevant to every VTS. VTS authorities should ensure that the number of reports vessels have to produce is limited to the minimum compatible with the tasks to be performed by the VTS.

### 5.3.1 *Sailing plan*

5.3.1.1 A sailing plan normally consists of the estimated time of arrival in the VTS area or departure from a berth or anchorage in the VTS area. The VTS authority should specify the additional information required in the sailing plan for all ships or for special ships according to local circumstances. In exceptional circumstances the sailing plan may be amplified at the request of the VTS centre.

5.3.1.2 The VTS centre may advise changes to the sailing plan to take account of the traffic situation or special circumstances.

5.3.1.3 After the sailing plan is agreed between the vessel and the VTS centre the vessel is permitted to participate in the VTS and should, as far as practicable, try to maintain the plan.

5.3.1.4 If special circumstances or the safety of traffic so require, the VTS centre may request the vessel to follow a changed sailing plan, indicating the reasons for its request. Such changes should be limited, as far as practicable, and may include:

- time of passing the next reporting point or another specific point;
- extra position reports;

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\* Assembly resolution A.531(13).



- a new destination;
- remaining at a specified location;
- request not to enter the VTS area;
- request to stay alongside the berth; and
- request to follow a certain route.

5.3.1.5 When special circumstances or the safety of traffic so require and when the VTS operator has the authority, a vessel may be instructed to maintain a specific sailing plan or implement changes to the sailing plan in accordance with paragraphs 5.3.1.4 and 3.3.2.

5.3.1.6 If a vessel does not carry out the action indicated in paragraph 5.3.1.4 or 5.3.1.5 the reasons should be reported to the VTS centre.

### 5.3.2 *Other reports*

5.3.2.1 When there is no automatic tracking after reception of the sailing plan and identification of the ship, position reports are necessary to update the movement data of a ship. Ships may be required to send position reports at prescribed positions.

5.3.2.2 If the sailing plan cannot be maintained the vessel should send a deviation report to the VTS centre and an amended sailing plan should be agreed between the vessel and the VTS centre.

5.3.2.3 The vessel should send a final report when leaving the VTS area or arriving at its berth or anchorage in the VTS area.

5.3.2.4 Any other report prescribed by the VTS authority should be made in accordance with the reporting principles adopted by the Organization. For example, a "deficiency report" is a report which should be made to inform the VTS centre of defects, damage, deficiencies or other limitations.

## 5.4 Assistance to navigation

When a vessel requests navigational assistance or when such assistance is deemed necessary by a VTS centre, the VTS operator should ensure positive identification and location of the vessel by reliable means and obtain other relevant information. After the identification and location are established, the messages on navigational assistance should be sent at short intervals. When the vessel needs no further navigational assistance, clear notice should be given to the VTS centre. In open waters navigational assistance will mainly consist of a description of surrounding traffic, warnings with respect to collision and grounding risks and, if necessary, advice on course. In confined waters navigational assistance will usually also include position data (e.g. distance to a "reference line" or to a "way point").

## 5.5 Traffic rules

In certain places traffic rules exist. Such rules may cover the movement of special ships, limitations in a channel or passing or overtaking situations. Where such rules exist, and where the VTS operator has the authority, the VTS operator may need to issue instructions to ensure that traffic complies with these traffic rules as appropriate.

## 6 PERSONNEL

The VTS authority should ensure that VTS operators have the qualifications and have received specialized training appropriate to their tasks within the VTS and meet the language requirements mentioned in paragraph 3.4, in particular with regard to VTS operators authorized to issue traffic instructions or to give navigational assistance.

## 7 VTS PUBLICATION FOR USERS

7.1 A VTS authority should ensure that the local traffic movement rules and regulations in force, the services offered and the area concerned are promulgated appropriately.

7.2 The publication should be convenient for use by mariners and should, where possible, include chartlets showing the area and sector boundaries, general navigational information about the area together with procedures, radio frequencies or channels, reporting lines and reporting points. Where the VTS operates beyond the territorial sea, the limit of the territorial sea should be clearly indicated on the chartlets.

## CHAPTER 2 – PLANNING A VTS

1 The safety of maritime traffic in a VTS area is necessarily a co-operative activity between those ashore and those at sea. It is therefore important, whenever a VTS is being planned and designed, that, amongst others, the mariners' views on the need for and operation of the service are taken into account. The level of need should also be considered. This will assist in the effective implementation of VTS and facilitate the co-operation of all the future participants and promote confidence in the procedures to be followed.

2 When considering the introduction of a VTS, the authority should verify that its operation will be in accordance with international and national law.

3 When planning a VTS, the VTS authority should be guided by criteria such as:

- . 1 the general risk of marine accidents and their possible consequences and the density of traffic in the area;
- . 2 the need to protect the public and safety of the environment, particularly where dangerous cargoes are involved;
- . 3 the operation and economic impact on users of the system and the marine community as a whole;
- . 4 the availability of the requisite technology and expertise;
- . 5 existing or planned vessel traffic services in adjacent waters and the need for co-operation between neighbouring States;
- . 6 existing or proposed traffic patterns or routing systems in the area, including the presence of fishing grounds and small craft;
- . 7 existing or foreseeable changes in the traffic pattern resulting from port or offshore terminal developments or offshore exploration in the area;
- . 8 the adequacy of existing communications systems and aids to navigation in the area;

- .9 consultation of interested parties and assessment of proposed procedures;
  - .10 meteorological factors such as weather and ice conditions;
  - .11 hydrological factors such as tides, tidal ranges and currents; and
  - .12 narrow channels, port configuration, bridges and similar areas where the progress of vessels may be restricted.
- 4 A VTS area can be divided into sectors but these should be as few as possible. The boundaries should be indicated in appropriate nautical publications.
- 5 Area and sector boundaries should not be located where vessels normally alter course or manoeuvre or where they are approaching convergence areas, route junctions or where there is crossing traffic.
- 6 VTS centres in an area or sector should use a name identifier.
- 7 Reporting points should be clearly identified, for example by number, sector, name and a geographical position or description. They should be kept to a minimum and be as widely separated as possible.