

White Paper

Vessel Traffic Services

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Introduction

The aim of this whitepaper is to give an overview about the content of Vessel Traffic Services within the maritime environment, its development and the SOLAS chapter V regulation.

Vessel Traffic Services (VTS)

The purpose of a Vessel Traffic Service (VTS) is to provide active monitoring, information services, traffic organization and navigational assistance for vessels in confined and busy waterways. VTS employs a variety of sensors and communications systems to assemble a traffic image and relay relevant information to waterway users and allied services ashore.

Ships participating in a VTS report their position, identity and intentions to the VTS center, from where they are continuously tracked and monitored. The highly trained operators employ a range of techniques and capabilities aimed at preventing vessel collisions, rammings, and groundings in their area of responsibility. They are also responsible for ensuring that commercial traffic moves efficiently and in all-weather.

A VHF-FM communications network forms the basis of most major services. Transiting vessels report to the VTS center by radiotelephone and are in turn provided with accurate, complete, and timely navigational safety information. The addition of a network of radars and video cameras for surveillance and computer-assisted tracking allows the VTS to play a more significant role in marine traffic management, thereby decreasing vessel congestion, critical encounter situations, and the probability of a marine casualty resulting in environmental damage. VTSs are found in many large ports and critical waterways where congestion is a operational hazard.

The development of VTS

Traditionally, the master of a ship has been responsible for a ship's course and speed, assisted by a pilot where necessary. Ships approaching a port would announce their arrival using flag signals.

With the development of radio in the late 19th century, radio contact became more important. But the development of radar during World War Two made it possible to accurately monitor and track shipping traffic.



The world's first harbour surveillance radar was inaugurated in Liverpool, England, in July 1948 and in March 1950, a radar surveillance system was established at Long Beach, California - the first such system in the United States. The ability of the coastal authority to keep track of shipping traffic by radar, combined with the facility to transmit messages concerning navigation to those ships by radio, therefore constituted the first formal VTS systems.

The value of VTS in navigation safety was first recognized by IMO in resolution A.158 (ES.IV) Recommendation on Port Advisory Systems adopted in 1968, but as technology advanced and the equipment to track and monitor shipping traffic became more sophisticated, it was clear guidelines were needed on standardising procedures in setting up VTS. In particular, it became apparent that there was a need to clarify when a VTS might be established and to allay fears in some quarters that a VTS might impinge on the ship's master's responsibility for navigating the vessel.

As a result, in 1985, IMO adopted resolution A.578 (14) Guidelines for Vessel Traffic Services, which said that VTS was particularly appropriate in the approaches and access channels of a port and in areas having high traffic density, movements of noxious or dangerous cargoes, navigational difficulties, narrow channels, or environmental sensitivity. The Guidelines also made clear that decisions concerning effective navigation and manoeuvring of the vessel remained with the ship's master. The Guidelines also highlighted the importance of pilotage in a VTS and reporting procedures for ships passing through an area where a VTS operates.

VTS and SOLAS

Vessel Traffic Services were not specifically referred to in the International Convention for the Safety of Life at Sea (SOLAS) 1974, but in June 1997 IMO's Maritime Safety Committee adopted a new regulation to Chapter V (Safety of Navigation), which set out when VTS can be implemented.



A revised SOLAS chapter V on Safety of Navigation was adopted in December 2000, and entered into force on 1 July 2002. Regulation 12 Vessel traffic services states:

1. Vessel traffic services (VTS) 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.
2. Contracting Governments undertake to arrange for the establishment of VTS where, in their opinion, the volume of traffic or the degree of risk justifies such services.
3. Contracting Governments planning and implementing VTS shall, wherever possible, follow the guidelines developed by the Organization. The use of VTS may only be made mandatory in sea areas within the territorial seas of a coastal State.
4. Contracting Governments shall endeavour to secure the participation in, and compliance with, the provisions of vessel traffic services by ships entitled to fly their flag.
5. Nothing in this regulation or the guidelines adopted by the Organization shall prejudice the rights and duties of Governments under international law or the legal regimes of straits used for international navigation and archipelagic sea lanes.

Summary

Stakeholders in safe and efficient maritime transportation are diverse. The activities that take place in ports and connecting waterways affect practically every citizen. The major categories of stakeholders include federal agencies, commercial groups, state and local groups, and public and community groups. All stakeholders share the following goals:

- ensuring safety, protecting the environment, reducing the costs of accidents, and promoting law enforcement and national security
- moving vessels and cargo in and out of ports efficiently under all conditions
- ensuring a smooth flow of goods from one mode of transport to another to save time and reduce costs
- fostering economic growth, creating jobs and prosperity in the process

Navigation information systems, such as vessel traffic services (VTS), can contribute to the achievement of these goals if vision, leadership, resources, and state-of-the-art technology are combined.