

## Overview

This standard covers the skills and knowledge required to apply numeracy and information technology to Vessel Traffic Services operations. The Vessel Traffic Services operator is required to make calculations and to use Information Technology to inform decisions and provide information to stakeholders.

There are two elements in this standard:

1. Apply numeracy to Vessel Traffic Services operations
2. Apply information technology to Vessel Traffic Services operations

### Target Group

This standard applies to an authorised Vessel Traffic Services operator who has a duty to ensure the safety of navigation and protection of the environment within their area.

## Performance criteria

### *You must be able to:*

Apply numeracy to Vessel Traffic Services operations

P1 search for and select relevant numerical information needed to meet a Vessel Traffic Services purpose

P2 interpret numerical information from tables, calculations and graphs

P3 select appropriate calculation methods to achieve the required results

P4 carry out calculations using amounts and sizes, scales and proportion, statistics and formulae

P5 show the steps in a calculation and the level of accuracy and identify and correct errors P6 interpret the results of calculations

P7 present findings clearly, using a description of the applied methods, graphs, charts and diagrams

P8 explain how the results of the calculations meet the purpose of an activity

You must be able to:

Apply information technology to Vessel Traffic Services operations

P9 search for and select relevant data using information technology to meet a Vessel Traffic Services purpose

P10 explore, develop and derive new information to meet a Vessel Traffic Services purpose

P11 combine and present information including text, images and numbers accurately, using an appropriate format

## Knowledge and understanding

*You need to know and understand:*

K1 the hazards and risks of the workplace that may affect people and the environment

K2 how to make and apply decisions based on the assessment of risk

K3 how to apply practices that maximise the health, safety and welfare of self and others in the workplace

K4 the national and international regulations, statutory authority, codes of practice and industry good practice in relation to Vessel Traffic Services and the role of Vessel Traffic Services Operator

K5 your organisation's policies, procedures and working practices relevant to Vessel Traffic Services operations

K6 the different roles within Vessel Traffic Service operations, their priorities and responsibilities

K7 lines and methods of communication/reporting in the workplace

K8 vessel movement and data recording equipment, their operating principles and how they are maintained

K9 how to communicate clearly and effectively with the range of people involved

K10 how to obtain relevant information from different sources

K11 how to read and understand graphs, tables, charts and diagrams

K12 how to read and use numbers

K13 how to estimate amounts and proportions

K14 how to read scales on a range of equipment to given levels of accuracy

K15 how to make accurate observations

K16 how to select appropriate methods for obtaining the required results, including grouping data when this is appropriate

K17 how to carry out calculations involving two or more steps, with numbers of any size clearly showing the calculation method and level of accuracy

K18 how to convert between fractions, decimals and percentages

K19 how to convert measurements between systems such as Imperial to Metric

K20 how to work out areas and volumes

K21 how to work out dimensions from scale drawings K22 how to use proportion and calculate using ratios K23 how to compare sets of data and how to use range to describe the spread within

K24 how to use given formula K25 how to check calculation methods for error

K26 how to select effective ways to present findings

K27 how to construct and use graphs, charts and diagrams, and follow accepted conventions for labelling these using appropriate scales and axes

K28 how to highlight the main findings and describe methods

K29 how to identify suitable sources of information

K30 how to search for information using multiple criteria

K31 how to interpret information and decide what is relevant to a purpose

K32 how to enter and bring together information using formats that help development

K33 how to explore information as needed for a purpose

K34 how to develop information in the form of text, images and numbers

K35 how to derive new information by comparing information from different sources to reach a conclusion or using formulae to calculate information such as a total or average K

K36 how to select and use appropriate layouts for presenting combined information,

K37 how to present information in a consistent way

K38 how to ensure work is accurate and clear and is saved appropriately using suitable folders/directories and file names to avoid loss

K39 the benefits and disadvantages of using Information Technology

K40 when it is necessary to observe copyright or confidentiality

K41 how to identify errors and their causes and minimise risk from viruses

---

### Scope/range

The levels of accuracy on a range of equipment should be to the nearest 10 mm or nearest inch

Accurate observations could include, counting the number of vessels per hour

Selecting appropriate methods for obtaining the required results including grouping data when this is appropriate, could include, vessels' draughts, vessel transit times

How to use given formula, could include, calculating estimated time of arrival  $\text{Time} = \text{Distance}/\text{Speed}$  formula

---

## External Links

The important contribution of Vessel Traffic Services towards maintaining the safety of life at sea, safety and efficiency of navigation and the protection of the marine environment is recognised nationally and internationally. International Association of Marine Aids to Navigation & Lighthouse Authorities (IALA) guidelines on recruitment, qualification and training for Vessel Traffic Services Operators have been adopted and are regulated in the UK through the Maritime and Coastguard Agency. These Vessel Traffic Services National Occupational Standards take cognisance of and complement the IALA guidelines and model courses.

<b>Developed by</b>	SDS
<b>Version Number</b>	1
<b>Date Approved</b>	01 Jan 2013
<b>Indicative Review Date</b>	01 Jan 2016
<b>Validity</b>	Current
<b>Status</b>	Original
<b>Originating Organisation</b>	Skills for Logistics
<b>Original URN</b>	PSSVTS106
<b>Relevant Occupations</b>	Harbour Masters, Marine Pilots, Vessel Traffic Services Operators, Vessel Traffic Service Supervisors, Vessel Traffic Services Manager, Ship's master, Bridge Team
<b>Suite</b>	Vessel Traffic Services Operations
<b>Keywords</b>	Vessel Traffic Services; harbour; marine; port; safety of navigation;