

IALA Model Course V-103/3

On

Vessel Traffic Services On the Job Training

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Document Revisions

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

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May 2005	Reformatting to comply with IALA document hierarchy	
December 2009	Total revision of document	General updating in light of 10 years experience and evolving technology

Table of Contents

DOCUMENT REVISIONS	2
TABLE OF CONTENTS	3
FOREWORD	4
PART A - MODULE 1 - COURSE OVERVIEW	5
1 INTRODUCTION	5
1.1 Purpose of the Model Course	5
1.2 Use of the Model Course	5
1.3 Presentation	5
1.4 Policy	6
1.5 Duration	7
1.6 Implementation	7
1.7 Validation	7
2 COURSE FRAMEWORK	7
2.1 Scope	7
2.2 Objective	8
2.3 Training Programme	8
2.4 Entry Standard	9
2.5 Requirements for gaining the OJT endorsement in the VTS Certification Log	9
2.6 Course intake – limitations	9
2.7 Staff Requirements	9
3 COURSE OUTLINE	10
4 GUIDANCE FOR INSTRUCTORS	12
4.1 Introduction	12
4.2 Curriculum	12
5 EVALUATION OR ASSESSMENT	13
5.1 Continual Professional Development	13

Foreword

The International Association of Marine Aids to Navigation and Lighthouse Authorities has been associated with Vessel Traffic Services since 1955 and recognises the importance of human resources to the development of efficient Vessel Traffic Services worldwide.

Taking into account the International Convention on Standards of Training, Certification and Watchkeeping of Seafarers, 1978, as amended in 1995 (STCW Convention), the Seafarer's Training, Certification and Watchkeeping Code (STCW Code) and STCW 95 Resolution 10, IALA has adopted Recommendation V-103 on Standards of Training and Certification of VTS Personnel.

The model training courses developed, or being developed, by IALA for VTS Personnel are:

- Model Course V-103/1 - VTS Operator;
- Model Course V-103/2 - VTS Supervisor;
- Model Course V-103/3 - On-the-Job Training;
- Model Course V-103/4 - On-the-Job Training Instructor.

These Model Courses are intended to provide National Members and other appropriate Authorities charged with the provision of vessel traffic services with specific guidance on the training of VTS Operators and VTS Supervisors. They may be used by maritime training institutes, and assistance in implementing any course may be obtained through the Association at the following address:

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Part A - Module 1 - Course Overview

1 INTRODUCTION

1.1 Purpose of the Model Course

The purpose of the model course is to provide a consistent approach to the training of VTS Personnel in a specific operational VTS environment. Upon successful completion of the model course VTS Personnel should be competent to assume operational VTS duties as determined by the VTS Authority.

The model course will complement the training delivered in model courses V-103/1 and V-103/2 to provide VTS Personnel with the specific knowledge of local VTS operational, geographical and equipment related procedures.

It is not the intention of the model course to present On-the-Job training instructors with a rigid training package. For training purposes the subjects may be grouped and re-arranged where that is considered an advantage. The knowledge, skills and dedication of the instructors are key components in the transfer of knowledge and skills to those being trained through this model course.

The required standard of competence is considered to be the level of proficiency that should be achieved for the proper performance of the functions carried out at the particular VTS Centre concerned. The training should take into account the level of competence already acquired and improve this to meet the needs of the VTS Centre. The provision by a VTS Authority of a structure programme of training for new VTS personnel will result in the efficient and safe provision of VTS personnel qualified to V-103 standards.

1.2 Use of the Model Course

This course is intended to cover the knowledge and practical competence required for an endorsement to be made in a VTS Certification Log that the holder has completed On-the-Job Training (OJT) at the VTS Centre at which he/she will be employed. The course is aimed at providing the OJT described in IALA Recommendation V-103.

All training and assessment of personnel for endorsement in their VTS Certification Log should be:

- structured in accordance with job performance, standard operating procedures and elements specific to the VTS centre concerned;
- presented in a realistic, job-centred atmosphere; and,
- conducted, monitored, evaluated and supported by persons qualified in accordance with the "Staff Requirements" set out in Course Framework.

To use the model course as a guide for the development of OJT programmes, instructors and operational personnel should review Course Outline, for VTS Operators and VTS Supervisors together with the specific services provided by the VTS centre.

From this review each centre should develop, document and instigate OJT policies and courses that ensure the competence of the trainees to perform all the duties required by a VTS Operator or VTS Supervisor, as appropriate, at the centre. VTS Authorities should also consider steps to maintain the standard of training delivered in the V-103/3 training through the development of a dedicated programme of continual professional development.

1.3 Presentation

This model course is specific to the VTS Centre and the specific format should be developed to meet the specific requirements of the VTS Authority. In general terms the model course should consist of distinct components to facilitate the end result of the provision of VTS Personnel that are capable of performing VTS as directed by the VTS Authority.

The model course may be split into several phases:

- Phase 1 – INDUCTION TRAINING – consisting of general introductions to makeup of the policy, procedures and management of the VTS Authority;
- Phase 2 – PRE LIVE VTS OPERATIONS – consisting of focussed training on specific areas such as local procedure, VTS equipment and emergency response;
- Phase 3 – LIVE VTS OPERATIONS – the provision of live VTS under the close supervision (one-on-one basis) of an authorised member of VTS personnel appointed by the VTS Authority.

The specific format of the course developed by the VTS Authority should be flexible and adaptable in nature to reflect the:

- background of the VTS personnel under training including their past experiences and knowledge gained;
- progress of the individual members of VTS personnel under training to reflect their specific development needs.

The model course may consist of a range of means of delivery to suit the specific needs of the VTS Authority. The means of delivery may consist of, but not be limited to:

- presentations;
- demonstration;
- discussion;
- visits to stakeholders/allied services;
- vessel trips;
- delivery of live VTS under close one-on-one supervision.

If this is the case, then lesson plans will be required for these sections, based on the Course Outline. These lesson plans should contain references to textbooks, teaching materials, teaching aids and student material that will be required during the presentation of the course.

The presentation and subsequent completion of the various assignments and tasks in the OJT programme should be repeated until the OJT Instructor is satisfied that the trainee has attained the required level of competence. If, at any time, the instructor feels that the trainee is unable to meet the required level of competence, then the instructor must provide additional training, or initiate action as deemed necessary by the VTS centre or the VTS Authority.

Guidance on the development of a training programme is provided in section 2 (training programme).

1.4 Policy

VTS Authorities are recommended to develop a specific overarching policy to cover the high level principles that are considered in the training of VTS personnel from initial recruitment through to authorisation and continual professional development.

Such a policy will enable a VTS Authority to demonstrate to the relevant Competent Authority a structured process to the selection, training and development of VTS personnel. Such a policy may consist of but not be limited to:

- The establishment of a training record book/task book/checklists;
- Identify a process for the selection, training and development of suitably qualified VTS personnel to act as on-the-job trainers;
- Specify a process to enable the assessment and authorisation of VTS personnel to enable them to perform operational duties as defined by the VTS Authority;

- The procedure for the provision of adequate human and physical resources to meet the requirements of the model course (including access to VTS equipment for instruction purposes).

1.5 Duration

It is difficult to recommend a fixed duration for OJT because there are several variables that will affect the time needed for VTS personnel to become familiar with a VTS area. In determining duration VTS Authorities should consider the following element in addition to any further elements that the VTS Authority may consider appropriate:

- 1 Size and complexity of the geographic VTS Area;
- 2 Levels of VTS offered – INS, TOS, NAS;
- 3 The complexity and content of VTS operational procedures;
- 4 The complexity and range of VTS equipment deployed;
- 5 The resources available to deliver the training with reference to both human and physical resources;
- 6 The number of VTS personnel undergoing training;
- 7 The background of the VTS personnel under training including their past experiences and knowledge gained.

The assessment of complexity of a VTS area should be reflected in content the on-the-job training record/task book.

1.6 Implementation

For the course to run smoothly and effectively, considerable attention must be paid to:

- The need for the VTS Authority to create an OJT task book in accordance with the headings provided in Course Outline. The task book is intended to provide structure for and means of, monitoring this training;
- The availability and use of qualified OJT Instructors or other authorized personnel;
- The availability and use of support staff;
- The need for trainees to have access to all equipment at the VTS Centre and its remote sites, operating manuals, textbooks, publications and other reference materials;
- The need for trainees to have full and ample opportunity to carry out and practice VTS tasks under supervision.

1.7 Validation

The information contained in this document has been validated by a group of technical advisers, consultants and experts on training of VTS personnel for use in the training and certification of VTS Operators and VTS Supervisors so that the minimum standards implemented may be as consistent as possible. The technical advisers were drawn from the IALA VTS Committee, training institutions of IALA National Members and experienced VTS Operators/VTS Supervisors/VTS Managers. Validation in the context of this document means that the group has found no grounds to object to its contents.

2 COURSE FRAMEWORK

2.1 Scope

This course is intended to provide the practical on site experience required to become an efficient and competent VTS Operator authorised to carry out operational duties as directed by the VTS Authority. It supplements and reinforces the classroom and exercises/simulation learning undertaken to meet the requirements of the IALA Model Course V-103/1 for VTS Operators and V-

103/2 for VTS Supervisors. Trainees will be required to complete On-the-Job Training for each centre in which they work and their competence to work in a centre will be indicated in their VTS Certification Log issued in accordance with IALA Recommendation V-103.

2.2 Objective

Newly appointed VTS Operators and VTS Supervisors will receive dedicated training in the areas required to enable them to efficiently assume operational VTS duties as directed by the VTS Authority. VTS Personnel will receive training that complements the core training delivered within model courses V-103/1 VTS Operator and V-103/2 VTS Supervisor.

The broad modules that are to be covered in V-103/3 training should consist of, but not be limited to the following modules:

- traffic management;
- local knowledge;
- communication co-ordination/language;
- equipment;
- personal attributes;
- emergency situations;
- local publications / regulations (e.g. Notices to Mariners).

Endorsement of the Certification Log to carry out the duties of a VTS Operator will be subject to the terms set out in IALA Recommendation V-103.

2.3 Training Programme

VTS Authorities are recommended to develop a training programme which covers the core competencies required to enable VTS personnel to assume operational duties as directed by the VTS Authority.

The training programme should include, but not be limited to, the competencies stated in the Course Outline. VTS Authorities should develop the broad subject headings provided in Course Outline to meet their specific local needs. VTS Authorities may expand and add subject headings as appropriate to meet their needs. Additionally VTS Authorities should take account of the previous experiences of VTS personnel when formatting a training programme to avoid unnecessary repetition.

The training programme should consist of clearly stated training plans for each subject area providing:

- Clear learning objectives/goals;
- Relate V-103/1 and V-103/2 competencies to local operations;
- Specific assessment points to verify and ascertain competence in the subject area.

VTS Authorities may consider developing the training programme in broad accordance with the phased approach outlined in Section 1 (presentation) above. This will serve to aid a structured approach to VTS Authority specific training.

The VTS training programme should be structured so that all elements of the plan are:

- S** - specific, significant, stretching;
- M** - measurable, meaningful, motivational;
- A** - agreed upon, attainable, achievable, acceptable, action-oriented;
- R** - realistic, relevant, reasonable, rewarding, results-oriented;
- T** - time-based, timely, tangible, trackable.

Records should be maintained to document a trainee's progress through the training plan so as to enable the VTS Authority to monitor the progress of the trainee.

2.4 Entry Standard

Minimum recommended entry standards for On-the-Job training for a:

- **VTS Operator:** successful completion of VTS Operator Training as laid out in Model Course V-103/1; and,
- **VTS Supervisor:** successful completion of VTS Operator Training as laid out in Model Course V-103/1 and VTS Supervisor Training as laid out in Model course V-103/2.

Some trainees may have already successfully completed On-the-Job Training at other VTS Centres, and their overall competence and confidence may enable them to complete On-the-Job Training in a shorter time frame.

VTS Authorities may commence V-103/3 training before VTS personnel have attended a V-103/1 or V-103/2 course at an accredited training institute. This will enable VTS Authorities to be flexible in their approach to the selection, appointment and training of VTS personnel.

2.5 Requirements for gaining the OJT endorsement in the VTS Certification Log

Every candidate for gaining an endorsement in the VTS Certification Log should satisfy the requirements of the Competent Authority by successfully completing the assignments and tasks set out in the OJT Course developed for the particular VTS centre.

The form and timing of examinations for the issue of an endorsement in the VTS Certification Log is a matter for the Competent Authority concerned.

An adequate period of time should be allowed at the end of the course for revision and review of the course content. That period, and the time occupied by examinations, should be additional to the times shown in the lesson plan.

If the Competent Authority does not require an oral / written assessment at the end of OJT, an assessment of each trainee should be made (see Evaluation or Assessment) to judge whether the required levels of competence set by the VTS Authority have been reached before an endorsement is made in the VTS Certification Log.

2.6 Course intake – limitations

On-the-Job trainees must have opportunities to perform various assignments and tasks in an operational environment under the direct supervision of an On-the-Job Instructor. An On-the-Job Instructor may be responsible for more than one trainee. However, when the training involves undertaking, under direct supervision, some of the duties of a VTS Operator, trainees should be assigned on a one-on-one basis to the On-the-Job Instructor.

Should there be a requirement for classroom work during On-the Job training, class sizes may be limited at the discretion of the VTS Authority in order to allow the instructor to give adequate attention to individual trainees. In general, it is recommended that a maximum of 12 - 14 students be the upper limit that a single instructor can be expected to train satisfactorily.

2.7 Staff Requirements

All On-the-Job Instructors should be appropriately qualified for the particular type and level of training and assessment required. As a minimum, an On-the-Job Instructor should possess:

- A valid VTS Operator Certificate and endorsements in the VTS Certification log. These should include a VTS Supervisors endorsement when the trainees are VTS Supervisors.
- On-the-Job Instructor training, including coaching and supervisory skills (see Model Course V-103/4).

Except when conducting training, On-the-Job Instructors may carry out normal duties within a VTS centre in accordance with their qualifications.

3 COURSE OUTLINE

The course should contain a range of practical assignments and tasks to be performed by trainees during the period of On-the-Job training required for endorsement of their VTS Certification Log.

The course outline is common for both VTS Operators and VTS Supervisors. VTS Authorities should determine the necessary depth of knowledge required for VTS Operators and the greater depth of knowledge and higher level skills required by VTS Supervisors when developing a training programme as outlined in Section 2 above.

The assignments and tasks should be set to provide knowledge of the particular VTS area or region which will enable VTS personnel to undertake operational duties as directed by the VTS Authority and should include, but not necessarily be limited to, the subjects in the following syllabus:

V-103/3 Syllabus

Traffic Management

Application of International, National and Local legislation

- Application of International, national and Local VTS standard operating procedures

- Enforcement of legislation/VTS procedure

- Delivery of an INS, TOS and NAS

- Traffic routeing measures

- Fairways, sea-lanes and associated traffic densities

- Anchoring and berthing

- Traffic composition

- Types of vessel expected

- Ships entering the area

- Ships leaving the area

- Ships transiting the area

- Port risk assessment

- Risk mitigation measures/procedure

- Ship domain procedure

- Pre arrival planning

- VTS sail/passage planning

- Liaison with adjacent VTS sectors/centres

- Near miss reporting/lessons learned procedures

- Incident reporting

Local Knowledge & Local publications / regulations

- Duties of VTS Operators and Supervisors

- Movements of dangerous goods

- Port and Harbour services (tugs, linesmen etc)

- Pilotage services

Customs and Immigration services
Port security procedure
Meteorological conditions
Effect of meteorological conditions of VTS area
Hydrological conditions
Effect of hydrological conditions on VTS area
Meteorological services
Local allied services
Local stakeholders
Familiarisation visits to allied services/adjacent VTS centres
Familiarisation through trips afloat on a variety of vessels/craft
Local aids to navigation
Local publications / regulations
Special vessel movements
Typical ship movement characteristics/conditions
Typical cargoes handles and their characteristics/conditions
VTS role in law enforcement

Communication Co-ordination/Language

Communication procedures
Reporting arrangements
Routine and non routine broadcasts
Use of SMCP
Dealing with non English speakers
Dealing with enquires from members of the public/stakeholders
Dealing with enquiries from the media or the press

Equipment

System architecture:
 AIS
 Meteorological
 VHF
 Aids to navigation
 Radar
Traffic image display equipment
VTS database equipment
Communications equipment
Interpretation of VTS data
Fault identification
Methods for reporting and correcting equipment faults

Back up systems
Importance of the maintenance of VTS records
Dissemination of VTS records/data
Data protection

Personal Attributes

Dealing with complaints
Dealing with conflict situations
Conflict management/conflict resolution
Dealing with high workload scenarios/multi tasking procedure
Crisis management
Dealing with stress/health and safety
Stakeholder relations/stakeholder service
Liaison with Supervisors/VTS Management/Senior Personnel

Emergency Situations

Contingency planning
Business continuity planning
Decision support
Potential resources available to the VTS Centre
Liaison with emergency services / responders and emergency response units
VTS role in search and rescue operations/unusual circumstances
Emergency procedures in response to specific incidents, including reporting arrangements
Communications network to coordinate information flow
Record keeping procedures

4 GUIDANCE FOR INSTRUCTORS

4.1 Introduction

The training plans should be designed to enable VTS Personnel to obtain an endorsement in their Certification Log to permit a:

- VTS Operator to provide an Information, Navigation Assistance or Traffic Organisation Service at the VTS centre concerned; or,
- VTS Supervisor to manage, administrate and supervise a VTS centre providing an Information, Navigation Assistance or Traffic Organisation Service.

4.2 Curriculum

The Course Outline is not set out in a teaching order and On-the-Job Instructors are not obliged to follow the order in which they appear but should treat them in the order that is considered to be the most effective for the trainees. Equally elements may be added or removed by the VTS Authority to meet their specific needs. This recognises the diversity of VTS operations with regard to level of service provided and the complexity of VTS areas and infrastructures.

The success of the course will depend, to a large extent, upon detailed co-ordination of the individual subjects into a coherent teaching scheme. It is important that an experienced On-the-Job Instructor acts as course co-ordinator to plan and supervise the implementation of the course.

The teaching schemes should be reviewed carefully to ensure that all of the listed subjects are covered, that repetition is avoided and that essential pre-requisite knowledge at any stage has already been covered. Care should be taken to see that items not included in the syllabus or treatments beyond the depth indicated by the objectives have not been introduced except where necessary to meet additional requirements of the Competent Authority.

The VTS Authority should appoint a suitably experienced member of VTS personnel to monitor the running and administration of the training programme. There should be regular discussions with the On-the-Job Instructors involved concerning the progress of trainees and any problems that have become apparent. Modifications of the teaching scheme should be made where necessary to ensure that trainees are attaining the required levels of competence.

5 EVALUATION OR ASSESSMENT

To evaluate trainee progress regular assessment must be undertaken. The evaluation criteria will depend on the needs of the particular VTS Authority and the style of training used. Assessors must be able to ascertain the competence of the trainee to carry out the duties of a VTS Operator in a job-centred environment before the Certification Log of the trainee is endorsed.

Records should be maintained of the progress made by the OJT trainees. All task completed should be recorded by the Instructor, together with any comments which would assist trainees to obtain the “On-the-Job training” endorsement in their Certification Log.

These assessments are additional to any examination required for the purposes of endorsing the VTS Certification Log. However, if the Competent Authority does not require an examination at the end of On-the-Job training they should be taken into account during the evaluation of trainees.

VTS Authorities may develop a range of assessment tools to assess the capability of VTS personnel to assume operational duties. Such assessment tools may consist of, but not be limited to:

- oral assessments;
- written assessments;
- practical demonstration of job related skills;
- simulation assessments;
- live assessments under close supervision of an authorised member of VTS personnel.

Various assessment tools may be chosen for the different phases of training recognising the continual development of VTS personnel.

The training personnel appointed by the VTS Authority should be mindful of the range of assessment tools available when developing a training programme. VTS Authorities are recommended to develop training programmes in accordance with the SMART principles in outlined in Course Framework above.

In assessing VTS personnel the following outputs may be considered by VTS Authorities:

- VTS personnel determined competent to carry out operational duties;
- VTS personnel determined not yet competent to carry out operational duties.

If the assessment indicates that the trainee has not yet reached the set competence level the appointed on-the-job training instructor should review progress in the area concerned and formulate a plan to enable the trainee to reach the desired level of competence.

5.1 Continual Professional Development

VTS Authorities are recommended to develop a programme of continual professional development to ensure that the standard of training achieved within the V-103/3 model course is maintained.

Continual professional development may consist of the following areas:

- annual formal or informal assessments;
- review of local incidents/anonymous lessons learned process;
- regular updates on, but not restricted to, the following areas:
 - Technological changes/new equipment;
 - Regulatory changes;
 - Procedural changes;
 - Professional developments in other associated areas.
- continual local knowledge development with pilots/vessels;
- visits to allied services/adjacent VTS centres/other similar organisations;
- attendance and participation in emergency exercises.