**IALA Model Course**

C0103-5

REVALIDATION Training for VTS Personnel

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1. MODEL COURSE OVERVIEW

# Introduction

IALA Model Courses have been developed to provide guidance on the level of training and knowledge needed to reach levels of competence defined by IALA. They provide IALA national members and other appropriate authorities with guidance on the training of VTS Personnel.

IALA’s contribution to the development of internationally harmonized guidance for vessel traffic services is recognized in IMO Resolution A.1158(32) Guidelines for Vessel Traffic Services and the Annex to the resolution states:

* *Contracting Governments are encouraged to take into account IALA standards and associated recommendations, guidelines and model courses (Section 9.2)*
* *VTS personnel should only be considered competent when appropriately trained and qualified for their VTS duties. This includes, inter alia:*
* *satisfactorily completing generic VTS training approved by a competent authority.*
* *satisfactorily completing on-the-job training at the VTS where the personnel are employed.*
* *undergoing periodic assessments and revalidation training to ensure competence is maintained; and*
* *being in possession of appropriate certification*

IALA recommendations, guidelines and model courses specifically related to the establishment and operation of VTS include:

* **Recommendation 0103** **- Training and Certification of VTS personnel** specifies the practices associated with the training and certification of VTS personnel to assist authorities when recruiting, training and assessing VTS personnel to ensure the harmonized delivery of vessel traffic services world-wide.
* **Guideline 1156 - Recruitment, training, and certification of VTS personnel** states that *“Model courses provided by accredited training organizations should be approved by the competent authority.”*
* **Guideline 1014 -** **Accreditation of VTS training organizations and approval to deliver IALA VTS model courses** sets out the process by which a training organization can be accredited to deliver approved VTS training courses.
* IALA model courses including:
* Model Course C0103-1 VTS Operator Training
* Model Course C0103-2 VTS Supervisor Training
* Model Course C0103-3 VTS On-the-Job Training
* Model Course C0103-4 VTS On-the-Job Training Instructor
* Model Course C0103-5 Revalidation training for VTS personnel

# Purpose of the Model Course

The purpose of model course C0103-5 is to assist VTS training organisations and VTS providers, and their teaching staff to establish and conduct revalidation training to ensure VTS personnel are competent for their VTS duties.

Revalidation training is the periodic, structured training designed to refresh, maintain, and enhance skills, knowledge and competencies of VTS personnel, ensuring the ongoing validity of their VTS qualifications.

This includes providing a consistent approach to ensure level of performance and skills in all areas of operation, including knowledge which may be infrequently used. Revalidation training covers generic and area specific elements of competency.

The VTS provider should have processes and procedures in place to ensure VTS personnel complete revalidation training, determining both the frequency and the method by which the training will be conducted. Competent authorities are to ensure that revalidation training is carried out at intervals of between three to five years.

Revalidation training may be delivered either by an accredited VTS Training Organization, or a VTS provider approved to provide revalidation training for their own personnel. It is acknowledged that, depending on how the training program is structured, both an accredited VTS Training Organization and the VTS provider may be involved in developing and delivering training activities.

It is not the intention of the model course to present instructors with a rigid ‘teaching package’. Rather, this model course provides a standard framework to assist in the preparation of revalidation training programs based on the IALA VTS model courses.

# Course Objective

To successfully complete this course the student will demonstrate the ongoing knowledge, practical competence, skills, and attitude to continue to undertake the duties associated with the provision of VTS. This includes:

* provide timely and relevant information on factors that may influence the transit of a ship and assist on-board decision making;
* monitor and manage traffic to ensure the safety and efficiency of ship movements; and
* respond to developing unsafe situations to assist the decision-making process on board.

Upon the successful completion of this course, VTS personnel should have demonstrated the skill, knowledge. and experience to revalidate their VTS qualifications in order to perform their roles effectively.

# Course Curriculum Outline

Revalidation training should be developed based on the duties carried out by VTS Personnel. This document focuses on revalidation training for VTS Operator qualifications and is based on IALA Model Course C0103-1.

Revalidation training for other VTS duties should be developed in a similar manner to this model course, reflecting the respective model course. Revalidation of VTS Supervisor qualification should be based on C0103-2 and VTS OJT Instructor qualification should be based on C0103-4.

Revalidation training for VTS personnel at a specific VTS centre should be based on C0103-3 and carried by the VTS provider.

To reflect specific requirements, a training needs analysis may be carried out prior to providing the training. The competence levels achieved in revalidation training should reflect the level identified for that element in the appropriate IALA model course.

Part B provides a framework to assist with the development of a course curriculum for revalidation training based on the VTS model courses to ensure VTS operators maintain their professional currency and that previous training is reinforced.

Training activities, scenarios, simulated exercises, and assessments undertaken during the course are intended to represent the role of the VTS Operator and reflect events or incidents that may be experienced at a VTS.

# Entry Requirements

The Revalidation Course is provided to existing qualified VTS Personnel for the revalidation of an existing VTS qualification. Participants for the revalidation course will have already successfully completed the IALA Model Course C0103-1 – VTS Operator Training and IALA Model Course C0103-3 VTS On-the-job Training.

Where VTS Personnel hold additional qualifications, such as IALA Model Course C0103-2 VTS Supervisor Training or IALA Model Course C0103-4 VTS On-the-Job Training Instructor, they should complete additional revalidation training to confirm ongoing competence and maintain currency in those areas.

# Course Intake - Limitations

The training organisation or VTS provider delivering the revalidation course should determine the number of students enrolled and provide information about the student-to-staff ratio. The class or group size should ensure that the instructor(s) can give each student the necessary individual attention to meet the learning objectives.

In general, it is recommended that 8-10 students is the maximum that a single instructor can be expected to train satisfactorily to the level of competence involved. Larger numbers may be admitted depending on the method of delivery.

# Training Staff Requirements

All instructors and assessors should be appropriately qualified for the training being provided and the assessment required for the model course.

As well as instructors and assessors, additional staff may be required for the maintenance of equipment, for the preparation of materials and training areas as well as support for simulation and other practical activities.

*IALA Guideline 1156 - Recruitment, training, and assessment of VTS Personnel* provides further guidance on the qualifications for instructors.

# Facilities and Equipment

The teaching aids, facilities and equipment students will utilise during the course should be fit for purpose and of a sufficient standard to reflect the training methodologies used in the course delivery. Examples of training methodologies may include:

* classroom sessions, presentations and facilitated discussion
* group based learning activities
* case studies and recordings
* remote learning (e.g. e-learning, online, distance, hybrid, blended)
* simulation training.

Training should be managed in a manner consistent with IALA Guideline 1027 in order to provide sufficient behavioural realism to allow students to acquire the knowledge and skills appropriate to the training objectives.

The training organisation or VTS provider delivering the revalidation course should provide for safe learning environment consistent with any national health and safety requirements.

# Delivery of the Model Course

All VTS training should be:

* Structured in accordance with written programmes that may be adapted as appropriate for the training being provided. The course should include such methods and means of delivery, procedures and course material as are necessary to achieve the prescribed standard of competence; and,
* Conducted, monitored, assessed, and supported by qualified persons.

The training staff should take into consideration existing knowledge, skills and attitudes of students to support the assessment and recognition of prior learning. A training needs analysis should be carried out to identify any differences between the level of competence of the student and those identified within the curriculum tables, and teaching strategies to address these gaps should be implemented.

Teaching programmes should be designed to ensure VTS personnel (e.g. operator, supervisor and OJT Instructor) are competent. All relevant subject elements from the respective VTS Model Course should be covered and clearly documented.

The presentation of concepts and methodologies may be repeated as necessary until the instructor is satisfied that the student has attained the required competence in each subject. The training may be presented in a single course or a series of courses to meet the learning objectives.

Thorough preparation is key to successful implementation of the course.

## Developing course content

Training staff should develop the recurrent course content based on a training needs analysis which is used to evaluate the current competencies of students and identify gaps that the revalidation training should address. It is noted that the core focus areas may change over time and depending on the student intake.

Lesson plans and detailed learning objectives should be developed based on the subject areas, competence tables, references, and materials listed in Part B of the existing VTS model courses.

The presentation of the material should be tailored to reflect specific training objectives and include practical exercises, assessments, etc. When developing lesson plans, the instructor should use teaching methods that will ensure students can achieve the required learning objectives.

The course timetable may need to be adjusted depending on the student intake as different students may require different lengths of time to cover the same content.

1. Competence Level Taxonomy for VTS Training

|  |  |  |  |
| --- | --- | --- | --- |
| Level | Knowledge and/or Attitude | Skill | Verbs (examples) |
| Level 1  Work of a routine and predictable nature generally requiring supervision | Comprehension  Understands facts and principles; interprets verbal/written material; interprets charts, graphs and illustrations; estimates future consequences implied in data; justifies methods and procedures | Guided response  The early stages in learning a complex skill and includes imitation by repeating a demonstrated action using a multi-response approach (trial and error method) to identify an appropriate response | Arrange, define, list, locate, label, identify, select |
| Level 2  More demanding range of work involving greater individual responsibility. Some complex/non-routine activities | Application  Applies concepts and principles to new situations; applies laws and theories to practical situations; demonstrates correct usage of methods or procedures | Autonomous response  The learned responses have become habitual, and the movement is performed with confidence and proficiency | Comply (with), describe, display, give examples, recognise, operate, perform (an action), participate in |
| Level 3  Skilled work involving a broad range of work activities. Mostly complex and non-routine | Analysis  Recognises un-stated assumptions; recognises logical inconsistencies in reasoning; distinguishes between facts and inferences; evaluates the relevancy of data; analyses the organizational structure of work | Complex observable response  The skilful performance of acts that involve complex movement patterns. Proficiency is demonstrated by quick, smooth, accurate performance. The accomplishment of acts at this level includes a highly co-ordinated automatic performance | Analyse, apply, categorise, classify, compare, differentiate, explain, justify, operate, solve |
| Level 4  Work that is often complex, technical and professional with a substantial degree of personal responsibility and autonomy | Synthesis  Integrates learning from different areas into a plan for solving a problem; formulates a new scheme for classifying objects or events | Adaptation  Skills are so well developed that individuals can adapt rapidly to special requirements or problem situations | Adapt, construct (build), demonstrate, devise, evaluate, interpret, organize, plan, predict, resolve, respond to |
| Level 5  Complex techniques across wide and often unpredicted variety of contexts. Professional/senior managerial work | Evaluation  Judges the adequacy with which conclusions are supported by data; judges the value of a work by use of internal criteria; judges the value of a work by use of external standards of excellence | Creation  The creation of new practices or procedures to fit a particular situation or specific problem and emphasizes creativity based upon highly developed skills | construct, compose, coordinate, create, criticise, draw conclusion, evaluate, formulate, improve, judge, modify, synthesize |

## Competence levels

To assist in the development of lesson plans, five levels of competence are used in the model courses for VTS personnel. Levels 1 to 4 are used in the model course for the training of VTS Operators. Learning objectives are provided within the VTS model course. Verb taxonomies have been provided with these levels to assist the training staff with the creation of detailed learning objectives. (Table 1 refers to the competence level taxonomy for VTS Training)

## Competence tables, teaching aids and references

Detailed competence tables are provided in part B of the respective VTS model course, including competence levels and proposed teaching aids and references. The training materials prepared (e.g. course notes, course presentations and reference documents etc) should be consistent with IALA standards and take into account recent changes and industry developments. These training materials should be available to the student for their reference.

## References

Revalidation course development and delivery should take into consideration the references listed in the respective model course.

## Course review and updating

The course content should be reviewed on a regular basis to ensure it reflects the current IALA standards, recommendations, guidelines and consider recent changes and industry developments.

On conclusion of the course, a review should be undertaken based on course feedback and observations during course delivery to identify ongoing improvements and training materials that may need updating.

# Assessment

Student progress should be continually monitored and assessed, and regular reviews undertaken. Any problems that may arise should be addressed so that the student can attain the required levels of competence and has the opportunity to meet the course objectives. Assessments should reflect the level of competence required, as provided in the competence tables for each module.

The training organisation or VTS provider delivering the revalidation course should determine the assessment methods to be used to ensure competence levels have been attained for each subject element. This includes procedures to address instances where the student is unable to attain the required competence.

Assessment results should be recorded and retained in accordance with national and/or organizational requirements as evidence to indicate the competence levels that have been attained for each subject of the model course.

# Course Certificate

A student should be considered competent when they have:

* demonstrated they have the theoretical and practical knowledge, and
* have passed the appropriate assessments to ensure they have met the required competency as outlined in this model course.

# Acronyms

IALA International Association of Marine Aids to Navigation and Lighthouse Authorities - AISM

VTSO VTS Operator

VTS OJT VTS On-the-Job-Training

1. COURSE CONTENT

Revalidation training is the periodic, structured training designed to refresh, maintain, and enhance skills, knowledge and competencies of VTS personnel, ensuring the ongoing validity of their VTS qualifications. It provides a mechanism to:

* Focus on the retention of critical skills and knowledge to ensure VTS personnel can continue to perform in their roles effectively.
* Refresh specific skills, particularly those that may degrade over time without use.
* Assess the competency of VTS personnel through a structured and standardised programme

The key topics to be covered during a revalidation training course should be based on the training needs analysis which:

* Evaluates the current competencies of VTS personnel by assessing the current skill levels and knowledge.
* Identifies gaps in skills or knowledge that the training should address.

The training needs analysis should be updated on a regular basis, with no more than [5 years] between updates.

# Generic training

## C0103-1 VTS Operator Training

Revalidation training for VTS Operators should reflect the learning objectives and elements presented in C0103-1. Table 2 provides an overview of the elements to be considered for revalidation training.

## C0103-2 VTS Supervisor Training

Revalidation training for VTS Supervisors should reflect the learning objectives and elements presented in C0103-2. Table 3 provides an overview of the elements to be considered for revalidation training.

## C0103-4 VTS On-the-job Instructor Training

Revalidation training for VTS OJT Instructors should reflect the learning objectives and elements presented in C0103-4. Table 4 provides an overview of the elements to be considered for revalidation training.

1. Revalidation Training for VTS Operators (C0103-1)

| **Module Title** | **Overview** | **Revalidation Training** |
| --- | --- | --- |
| 1. Communication Coordination and Interaction | This module covers the communications principles used in VTS operations and assumes the minimum level of English has been obtained as identified in IALA Guideline 1156 and has appropriate national qualifications to operate the VHF marine radiotelephony equipment. | Focuses on ongoing competence, with clear and unambiguous communication and addressing areas that may be identified during the training needs analysis.  Include VTS Communication Competency training and assessment [G#### ] |
| 1. Legal Framework | This module covers the regulatory and legislative framework of VTS, including the liabilities and the responsibilities of allied services and participating ships in the VTS. | Focuses on knowledge of current regulatory framework, including any amendments or revisions in international and national requirements. |
| 1. Provision of VTS | This module covers the practical aspects associated with the provision of VTS including the provision of information, and the issuing of advice, warnings, instructions, and traffic clearances. | Ensure ongoing competence, and providing focus training on specific areas as may be identified during the training needs analysis. |
| 1. Nautical Knowledge | This module covers nautical knowledge elements required to perform the function of a VTS Operator. | Ensure ongoing competence, providing focus training on specific areas as may be identified during the training needs analysis. |
| 1. Equipment | This module covers the requirement for VTS Operators to be able to understand the operational limitations and benefits of equipment used in VTS. | Includes changes and developments in equipment, as well as technical developments in the maritime industry that may affect VTS operations. |
| 1. Human Factors | This module addresses the required competences for VTS Operators to perform their duties under all conditions including emergencies and stressful situations | Focus on developments in international best practice, addressing any areas that may be identified during the training needs analysis. |
| 1. Emergency Situations | This module includes the processes and procedures to respond to emergency situations (internal and external) while maintaining safety of the waterway in the VTS area. | Focus on emergencies and incidents, including relevant case studies/incident reports and reflects any areas that may be identified during the training needs analysis. |

1. Revalidation Training for VTS Supervisors (C0103-2)

| **Module Title** | **Overview** | **Revalidation Training** |
| --- | --- | --- |
| 1. Communication and Leadership | This module covers the transition from an operations (VTSO) role to a leadership role, including leadership qualities and styles, communicating effectively, and preparing reports. | Focuses on ongoing competence, with clear and unambiguous communication and addressing areas that may be identified during the training needs analysis.  Include session on continuing professional development for leadership skills. |
| 1. Managing the Watch | This module focuses on the higher-level responsibilities of a VTS Supervisor, including watchkeeping responsibilities, shift management and performance management. | Include changes to expectations for managing the VTS watch as technology changes. Update regarding human factors and ergonomics (G1171) and Stress and Trauma in VTS (G####) |
| 1. Provision of VTS | This module addresses enhanced responsibilities of the VTS Supervisor, including the regulatory framework, interaction with allied and other services, prioritising and delegating work and maintaining a safe waterway. | Focus on updates to regulatory structure from a VTS Supervisor perspective. Include simulations that support continuing professional development for operational and supervisory skill sets. |
| 1. Responding to Emergency Situations | This module builds on the existing training and experience, with a focus on contingency plans and emergency management. | Include updated / changed approaches to emergency response, with simulations to support skill development. |
| 1. Human Factors | This module addresses the leadership role of the VTS Supervisor in recognising and implementing factors between humans, technology, systems and procedures that affects operational performance. | Provide updates on developments in psychosocial studies for VTS personnel, impact of technology and systems development. |

1. Revalidation Training for VTS OJT Instructors (C0103-4)

| **Module Title** | **Overview** | **Revalidation Training** |
| --- | --- | --- |
| 1. Educational Theory | This module covers the principles of adult educational theory to support VTS OJT. | Provide review of adult learning theory, opportunity to share experiences on training, and highlight additional theories that may be identified. |
| 1. Learning and Teaching | This module covers learning and teaching styles, instructional techniques and adapting teaching styles for different learners. | Include opportunity to expand on existing skill sets for VTS OJT, with a focus on challenges and opportunities of training within the VTS operational environment. |
| 1. Training Programme Design | This module covers analysis for training programmes, designing, developing, and implementing training. | Review and verify competence for training program design, development and implementation. Include a focus on any changes to relevant IALA documents. |
| 1. Assessment and Evaluation | This module covers the role and process for assessment and evaluation of VTS OJT. | Provide review and update of assessment methodologies for VTS training, include a focus on any changes to relevant IALA documents. |
| 1. VTS OJT Programme | This module covers the development of a VTS OJT programme. | Provide opportunity for review of existing VTS OJT program, with a chance to amend / update based on the Revalidation Training course. |