



IALA

IALA MODEL COURSE

C0103-5 REVALIDATION TRAINING FOR VTS PERSONNEL

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PART A MODEL COURSE OVERVIEW

1. 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 Member States 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 R0103 - 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 G1156 - Recruitment, training, and certification of VTS personnel** states that "*Model courses provided by accredited training organizations should be approved by the competent authority.*"
- **Guideline G1014 - 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

2. 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. In addition, the revalidation of VTS personnel ensures they remain aligned with current operational, technology and regulatory requirements.



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.

Revalidation training is not a repetition of the original model course, but it is a focused, performance-based approach that maintains VTS qualifications by:

- Refreshing and reinforcing critical skills and knowledge, particularly those that are used infrequently;
- Providing updates in regulations, operations and VTS best practices;
- Assesses ongoing competence through theory and simulation-based activities; and
- Preparing for future readiness through exposure to emerging trends and technologies.

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. In developing the revalidation course, the specific training needs of the VTS personnel should be considered, reflecting their role (VTS Operator, VTS OJT, VTS Supervisor or VTS OJT Instructor).

3. 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.

It is noted that revalidation training is one element of a holistic approach to maintaining qualifications, as noted in IALA G1156 – Recruitment, training and certification of VTS personnel.

4. COURSE CURRICULUM OUTLINE

Revalidation training should be developed based on the duties carried out by VTS Personnel. Using the model courses as a basis, the revalidation training should be developed to reflect the competence levels identified in the respective model course, with focused content to reflect the needs as identified through a training needs analysis. In this manner, training is developed as follows:

- For VTS Operators, based on IALA C0103-1
- For VTS Supervisors, based on IALA C0103-2
- For VTS On-the-job Instructors, based on IALA C0103-4



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

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. In addition, developments in VTS, including regulatory, operational and technical, should be included in the revalidation course to ensure VTS personnel are aware of current trends and developments.

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.

5. 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 revalidation training to confirm ongoing competence in those areas.

6. 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 are 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.

7. 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 G1156 - Recruitment, training, and assessment of VTS Personnel, provides further guidance on the qualifications for instructors.

8. 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 G1027 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.

9. 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.

9.1. 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.



Table 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



9.2. 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)

9.3. 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.

9.4. References

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

9.5. 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.

10. 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.

11. RECOGNITION OF SUCCESSFUL COMPLETION

Recognition of the successful completion of revalidation should be noted in the VTS certification log or similar means to formally record course certificates and training activities of VTS personnel. This may be in the form of a certificate issued by an accredited training organisation or recording in the certification log or similar training record maintained by the VTS Provider.



PART B COURSE CONTENT

1. OVERVIEW

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.
- Reflects the modular approach of IALA model courses.
- Incorporates updates and changes to regulations, operations and technical developments.

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

Revalidation training reflects the contents and competence levels of the original model course material (e.g. C0103-1, C0103-2, C0103-4), with an emphasis should be on maintaining and demonstrating competence through theory, simulation exercises and practical assessments.

2. REVALIDATION TRAINING

2.1. 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.

2.2. 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.

2.3. 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.



Table 2 *Revalidation Training for VTS Operators (C0103-1)*

Module Title	Overview	Revalidation Training
1. Communication Coordination and Interaction	<p>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 G1156 and has appropriate national qualifications to operate the VHF marine radiotelephony equipment.</p>	<p>Focuses on ongoing competence in communication, standard message structure and phrases to facilitate clear and unambiguous communication. Addresses other areas that may be identified during the training needs analysis.</p> <p>Includes the assessment of competency in VTS English Communication Competency testing [GNNNN]</p>
2. Legal Framework	<p>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.</p>	<p>Focuses on knowledge of current regulatory framework, including any amendments or revisions in international and national requirements.</p>
3. Provision of VTS	<p>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.</p>	<p>Ensure ongoing competence, and providing focus training on specific areas as may be identified during the training needs analysis.</p>
4. Nautical Knowledge	<p>This module covers nautical knowledge elements required to perform the function of a VTS Operator.</p>	<p>Ensure ongoing competence, providing focus training on specific areas as may be identified during the training needs analysis.</p>
5. Equipment	<p>This module covers the requirement for VTS Operators to be able to understand the operational limitations and benefits of equipment used in VTS.</p>	<p>Includes changes and developments in equipment, as well as technical developments in the maritime industry that may affect VTS operations.</p>
6. Human Factors	<p>This module addresses the required competences for VTS Operators to perform their duties under all conditions including emergencies and stressful situations</p>	<p>Focus on developments in international best practice, addressing any areas that may be identified during the training needs analysis.</p>
7. Emergency Situations	<p>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.</p>	<p>Focus on emergencies and incidents, including relevant case studies/incident reports and reflects any areas that may be identified during the training needs analysis.</p>



Table 3 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 strategies and techniques to communicate and lead effectively within a leadership role. Addresses other areas that may be identified during the training needs analysis. Include session on continuing professional development for leadership skills.
2. 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).
3. 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.
4. 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.
5. 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.	Focus on interpersonal skills, team resilience and optimising team performance. Provide updates on developments in psychosocial studies for VTS personnel, impact of technology and systems development.



Table 4 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.
2. 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 implementing training within the VTS operational environment.
3. 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.
4. 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.
5. VTS OJT Programme	This module covers the development of a VTS OJT programme.	Provide opportunity for review and adjust an existing VTS OJT program.