



IALA MODEL COURSE

V-103-5

THE REVALIDATION PROCESS FOR VTS QUALIFICATION AND CERTIFICATION

Edition 1

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DOCUMENT REVISION

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

Date	Page / Section Revised	Requirement for Revision



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FOREWORD

The International Association of Marine Aids to Navigation and Lighthouse Authorities has been associated with Vessel Traffic Services since 1957 and recognises the importance of the training and education of personnel 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 and 2010 (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.

Competent Authorities are encouraged to adopt these Model Courses as part of the basis for mandatory training in a manner consistent with their domestic legal framework.

The Model Courses developed by IALA for VTS personnel are:

- Model Course V-103/1 - VTS Operator Training
- Model Course V-103/2 - VTS Supervisor Training
- Model Course V-103/3 - VTS On-the-Job Training
- Model Course V-103/4 - VTS On-the-Job Training Instructor
- Model Course V-103/5 - Revalidation Process for VTS Certification

These Model Courses are intended to provide Competent Authorities, Accredited Training Organisations and other appropriate authorities charged with the provision of vessel traffic services with specific guidance on the training of VTS personnel. Assistance in implementing any Model Course may be obtained through IALA at the following address:

The Secretary-General
IALA
10 rue des Gaudines
78100 Saint Germain-en-Laye
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Tel: (+) 33 1 34 51 70 01
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PART A COURSE OVERVIEW

1. INTRODUCTION

IALA Recommendation V-103 on the Standards for Training and Certification of VTS Personnel recommends that an assessment of the performance of each Vessel Traffic Service Operator (VTSO) should be carried out by a VTS Supervisor/Manager at regular intervals, preferably annually, to ensure that the standards set by the Competent Authority for VTS qualifications are continuing to be met.

IMO Resolution A.857(20) states that once suitably qualified and trained VTSOs are performing on the job, their performance must be observed and monitored to ensure that it continues to meet the established standards.

Further, to ensure the continued maintenance of a VTS qualification, the Competent Authority should implement a process of revalidation training. Within this Model Course, Refresher Training consists of periodic Recurrent Training. This should be supplemented by Adaptation Training and/or Updating Training as deemed necessary. Each of these types of training are part of Refresher Training as mentioned in IMO Resolution A.857(20) and should include a relevant method of assessment and / or proficiency check for VTSOs.

1.1. PURPOSE OF THE MODEL COURSE

This Model Course is intended to provide guidance to Competent Authorities, Accredited VTS Training Organisations and VTS Authorities on how to maintain and improve the quality of performance of their VTSOs, by means of training, in order to enable the revalidation of the qualifications contained within the VTS certification log. An optimal level of performance can be assured by a well-developed system of IALA V-103/1 VTS Operator training supplemented by periodic Refresher Training.

Revalidation of a VTS qualification may be required in a variety of situations, each calling for a different approach. In this document these situations will be described together with the most appropriate course of action for the revalidation of the VTS qualification.

Revalidation of a VTS qualification may be required when:

- The VTS qualification or VTS certification log is approaching its expiry date;
- There are changes in the physical environment of the VTS or the tasks of the VTSO which necessitate additional training;
- There is a break in service, unsatisfactory operational performance or other circumstances leading to a reduced level of competence.

Training must be appropriately recorded and, at all times the VTS certification log should be kept up to date to enable the VTS qualifications to be revalidated when required.

The generic term, revalidation process, is used within this Model Course to describe the different steps in the process of the maintenance of a VTS qualification. The revalidation process ensures that holders of a VTS qualification maintain a satisfactory level of operational performance in order to retain, develop and increase their competency. In turn, this will contribute to the safety and efficiency of navigation in a designated VTS area.

In addition to the revalidation process, Competent Authorities and/or VTS Authorities should encourage VTSOs to take responsibility for their own personal continued professional development as a core component of their role.

Completion of the revalidation process will result in the revalidation and maintenance of VTS qualifications contained within a VTS certification log.

Competent Authorities are encouraged to adopt this Model Course as part of the basis for mandatory training in a manner consistent with their domestic legal framework.

Refresher Training is designed to ensure continued professional development of a VTSO with the aim to increase and enhance their competence thereby enabling them to deliver the optimum level of Vessel Traffic Services.

Refresher Training consists of a set of training tools, being currently Recurrent Training, Adaptation Training and Updating Training in order to ensure that critical training needs are addressed during the career of the VTSO.

Although this Model Course primarily refers to VTSOs, Competent Authorities may require that personnel holding V-103/2 VTS Supervisor qualifications, V-103/4 On-the-Job Training Instructor qualifications or VTS Managers should undertake additional elements of Refresher Training. This recognises the requirement for holder of these additional VTS qualifications to possess a higher level of knowledge and understanding.

1.2. USE OF THE MODEL COURSE

In accordance with the definition of Refresher Training contained within IMO Resolution A.857(20), Recurrent, Adaptation and Updating Training should combine a variety of teaching methods to provide VTSOs with the skills, knowledge and attitude necessary to perform in their present/future jobs both safely, efficiently and effectively.

Furthermore, Recurrent, Adaptation and Updating Training, encompasses the definition of Refresher Training within IMO Resolution A.857(20) by ensuring that training is carried out to maintain a certain level of performance, skills in areas or knowledge which are infrequently used and where consequence of non-performance is great.

IALA Recommendation V-103 on the Standards for Training and Certification of VTS personnel recommends that an assessment of the performance of each VTSO should be carried out by a VTS Supervisor/Manager at regular intervals, preferably annually, to ensure that the standards set by the Competent Authority for operator qualifications are continuing to be met.

This regular assessment may take the form of performance monitoring/review or appraisal.

To ensure the continuous professional development of VTSOs, Refresher Training should be undertaken to ensure that holders of VTS qualifications maintain a satisfactory level of operational performance.

Refresher Training, to enable the revalidation of qualification(s) contained within a VTS certification log, consists of three separate processes:

- **Recurrent Training** should be carried out at regular intervals and is part of a structured training programme thereby enabling continual professional development and resulting in the maintenance of the VTS qualification.
- **Adaptation Training** is carried out whenever significant changes are expected or when changes have been made, concerning equipment, regulations, operational procedures or any other matter which is relevant to the performance of VTSOs.
- **Updating Training** is tailor made training following a training needs analysis indicating that VTSOs need additional training. Updating Training may be required after a break in service, unsatisfactory operational performance or other circumstances leading to a reduced level of competence.

1.3. TEACHING MODULES

The flowchart below describes the steps necessary in order to enable the revalidation of a VTS qualification.

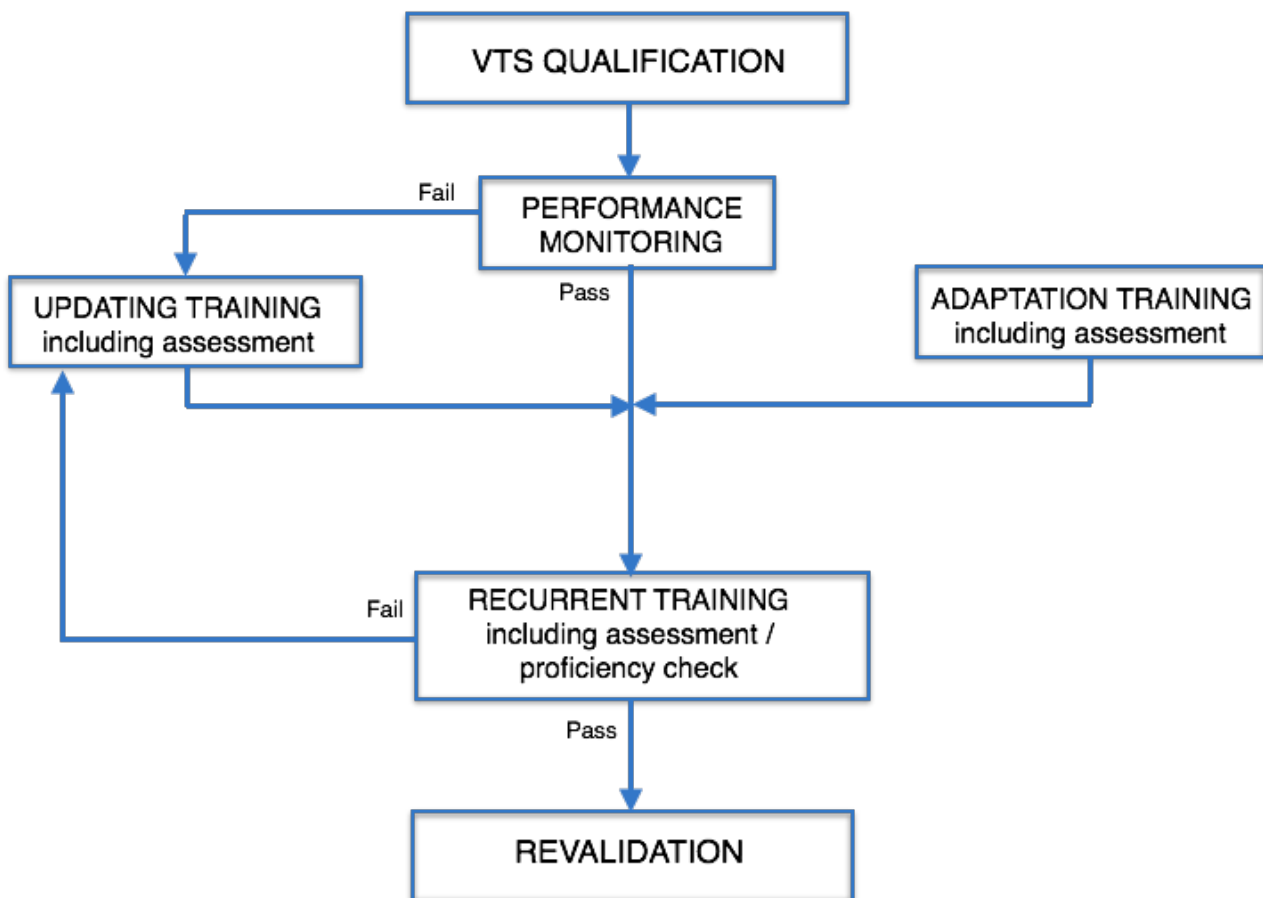


Figure 1 *Process for the revalidation of VTS qualifications*

Notes:

1. Performance Monitoring should be carried out at regular intervals, preferably annually.
2. It is recommended that Recurrent Training is carried out at intervals of not exceeding five years.
3. Updating Training and Adaptation Training should be carried out when deemed necessary.

PART B DELIVERY OF THE MODEL COURSE

1. INTRODUCTION

All training and assessment of VTSOs undertaking Refresher Training should be:

1. Structured in accordance with written programmes, including such methods and means of delivery, procedures and course material as are necessary to achieve the prescribed standard of competence; and,
2. Conducted, monitored, assessed by persons qualified in accordance with IALA Guideline 1103 or IALA Model Course V-103/4 or other recognised training qualification.

Training staff with responsibility for the design of Refresher Training should review the course outline and detailed syllabus for each subject. The actual level of knowledge, skills and attitude of the trainees should be kept in mind during this review. For programmes of Adaptation Training and Updating Training a gap-analysis is required. More detailed information on the gap-analysis is provided in part B section 4.2 of this document.

Prior to the commencement of any Refresher Training programme, the VTSO should be provided with written information regarding the training. This information should at least give insight into:

1. The date, time and location where the training will be given;
2. The name of the instructor(s);
3. Whether an assessment will be part of the procedure and what level of performance is expected;
4. The consequences of not passing the assessment;

The rights of the VTSO (for example, review the exercise, ask second opinion, appeal etc.)

2. IMPLEMENTATION

To deliver a programme of Refresher Training effectively, consideration should be given to the availability and the most effective use of:

- Learning goals, lessons plan and appropriately qualified instructors as specified out in IALA Guideline 1103;
- The appliance of a standardised norm for building the exercise;
- Support staff;
- Briefing / debriefing rooms, and other relevant facilities;
- Equipment, which may include simulators;
- Sites, interactive maps, video-material, textbooks, technical/professional papers;
- References to IALA Recommendation V-103 and its associated Model Courses;

Other relevant sources of information to support the training process.

3. VALIDATION

This Model Course has been prepared and validated by a group of experts in VTS training, operations and technology. This Model Course has been approved by the IALA VTS Committee and IALA Council.

4. TRAINING PROGRAMME

4.1. GENERAL PRINCIPLES

Programmes of Recurrent, Adaptation and Updating Training should be comprehensively planned and should consist of a structured scheme of work combined with detailed lesson/training plans for each subject area providing:

- Clear learning objectives/goals;
- Reference to relevant competencies contained in IALA Recommendation V-103 and its associated Model Courses;
- Specific assessment strategies to verify, ascertain and record competence in the relevant subject areas.

Programmes of Recurrent, Adaptation and Updating Training should be structured so that all elements of the scheme of work and detailed lesson/training plans 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, traceable.

Programmes of Recurrent, Adaptation and Updating Training should draw on a range of training delivery methods so as to maximise development opportunities. Delivery methods may include, but are not limited to:

- Presentations;
- Guided discussions;
- Case studies;
- Simulator Training;
- Simulations, role play;
- Practical exercises;
- Online or e-learning;
- Blended learning;
- On the Job Training;
- Visits (to allied services, trips with Pilot / Vessel Masters, other VTS Centres etc.).

4.2. TRAINING NEEDS ANALYSIS

The training needs analysis, as described in IALA Guideline 1103 (on Train the Trainer), is an assessment conducted by the VTS Authority to identify a gap between the minimum acceptable standard of performance, as described in IALA Recommendation V-103 and its associated Model Courses, and the actual performance of the VTSO.

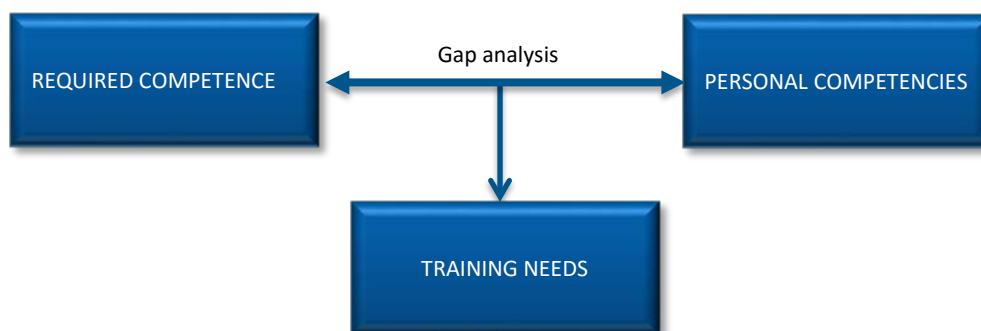


Figure 2 *Training needs analysis*

The identification of training needs results in the identification and prioritization of training requirements. The identification of training needs should start with the determination of the knowledge, skills and attitude essential for maximum effectiveness as a VTSO.

Where performance problems have been identified with a VTSO it is important to assess and question whether the non-performance is due to a lack of knowledge, skills or attitude. Training is one of several solutions which may be available to address performance problems.

4.3. COURSE INTAKE - LIMITATIONS

Class/group sizes should be limited at the discretion of the Competent Authority in order to allow the instructor(s) to give adequate attention to individual participants. A formal process to determine the minimum and maximum class/group size should be undertaken when the programme of Recurrent, Adaptation or Updating Training is designed.

Larger numbers of participants may be admitted if suitable mitigation measures, such as extra instructor(s) or tutorial periods are provided. This will ensure that adequate support is available to course participants as required, including on an individual basis as deemed necessary.

During practical sessions and group activities there may be additional constraints on class size. In particular, where the use of a simulator or similar teaching aid, such as VTS equipment, is involved, it is recommended that no more than two students should be trained simultaneously on any individual piece of equipment.

4.4. STAFF REQUIREMENTS

Competent Authorities and/or VTS Authorities should ensure that training staff conducting Recurrent, Adaptation and Updating Training are appropriately qualified and experienced for the particular programme and nature of training and the corresponding assessment of competence.

Instructors should be qualified in accordance with IALA Guideline 1103 on Train-the-Trainer, IALA Model Course V-103/4 On-the-Job Training Instructor or other recognised training qualifications.

Depending on the training required it may be necessary to use instructors from other sources to deliver specialised courses. For example, this may include instructors from equipment providers or other organisations. In this case, Competent Authorities and/or VTS Authorities should review the credentials of the nominated instructor(s) before training commences.

5. ASSESSMENT

To successfully complete a programme of Recurrent, Adaptation or Updating Training, VTSOs should meet a level of performance determined by the Competent Authority.

An assessment should provide evidence that VTSOs can proficiently perform the duties specified by the Competent Authority. This may take the form of a written and/or practical assessment which may be conducted through simulation or other means such as individual on-the-job assessment or a proficiency check.

When determining which method of assessment to be used, consideration should be given to the fact that a written assessment will generally indicate the level of knowledge/insight whereas a practical assessment (e.g. in a simulator or on-the-job) will generally indicate a combination of both knowledge and skills.

This assessment should preferably be formal, standardised and well documented.

PART C COURSE FRAMEWORK

1. RECURRENT TRAINING

1.1. INTRODUCTION

Recurrent Training should cover generic and area specific elements of competency. This should be linked to a process combining instruction and practice to provide VTSO with the skill, knowledge and experience necessary to perform their roles safely, efficiently and effectively.

Therefore, the general objectives of Recurrent Training are to provide a structured means of maintaining professional currency, reinforcement of previous training, and providing for continuous professional development.

Recurrent Training should be conducted by an Accredited Training Organisation. Individual VTS Authorities may conduct Recurrent Training with the approval of the relevant Competent Authority.

Successful completion of a process of Recurrent Training is necessary to facilitate the revalidation of the VTS qualifications contained within a VTS certification log.

1.2. COURSE STRUCTURE

Competent Authorities are recommended to develop a structured and standardised programme of Recurrent Training which maintains the core competencies of VTSOs. A programme of Recurrent Training will enable VTSOs to maintain currency to perform their operational duties as directed by the VTS Authority.

The content of Recurrent Training should provide a structured means of maintaining professional currency, reinforcing VTSO competencies and best practices, and providing for continuous professional development. The content should be based on generic areas of competency which may be supplemented by specific subjects to meet national or local needs.

It is recommended that Recurrent Training should include the use of simulation. However, where simulation is not practicable, relevant and interactive exercises should be designed so as to achieve the desired learning goals.

The subject matter and topics included in a programme of Recurrent Training should reinforce the core modules of the IALA V-103 Model Courses.

A programme of Recurrent Training should give consideration to the following broad subject headings:

Table 1 *Possible subject headings for Recurrent Training*

Topic (including V-103/1 Module Reference)	Sample Subject Headings
1 – Language	<ul style="list-style-type: none">• Language structure• Specific VTS messages construction• Standard maritime communication phrases
2 – Traffic Management	<ul style="list-style-type: none">• Regulatory requirements and legal knowledge• Principles of waterway and traffic management including situational awareness• Traffic monitoring and organisation including types of service
3 – Equipment	<ul style="list-style-type: none">• Evolving technologies
4 – Nautical Knowledge	<ul style="list-style-type: none">• Collision regulations
5 – Communication Co-ordination	<ul style="list-style-type: none">• General communication skills
6 – VHF Radio	<ul style="list-style-type: none">• Radio operator practices and procedures• Communication procedures, including SAR
7 – Personal Attributes	<ul style="list-style-type: none">• Human relation skills & interpersonal relationships• Responsibility and reliability• Attitude/proactivity

Topic (including V-103/1 Module Reference)	Sample Subject Headings
8 – Emergency Situations	<ul style="list-style-type: none"> • Prioritise and respond to situations • Maintain a safe waterway throughout emergency situations
Local Continual Professional Development Activities	<ul style="list-style-type: none"> • Undertake visits to allied services, and other stakeholders • Ship trips with Pilots or vessel Masters

This table is not exhaustive and subjects may be added or removed. The areas may be supplemented by additional subjects drawn from the IALA Model Courses or other suitable sources to meet specific national and/or local needs.

Competent Authorities, in conjunction with Accredited Training Organisations and VTS Authorities as appropriate, should ensure that the programme of Recurrent Training takes account of the previous experience of the VTSO so as to avoid unnecessary repetition of previous learning.

1.3. ENTRY STANDARD

The minimum recommended entry requirements for a programme of Recurrent Training are:

- The successful completion of training as specified in IALA Model Course V-103/1, V-103/2 (if applicable) and V-103/3, and;
- The possession of a valid VTS certification log¹.

1.4. FREQUENCY AND DURATION

The Competent Authority should determine the frequency of a programme of Recurrent Training. However, it is recommended that Recurrent Training should be carried out at intervals of not exceeding five years.

The specific duration of a programme of Recurrent Training should be determined by the Competent Authority. It is recommended that VTS Authorities also allow sufficient time for elements of local continuous professional development training to be undertaken on an annual basis.

1.5. ASSESSMENT

A programme of Recurrent Training should be concluded with an assessment. This may take the form of a written and/or practical assessment which may be conducted through simulation or other means such as individual on-the-job assessment or a proficiency check.

In the event that a VTSO does not meet the standards of performance determined by the Competent Authority a training needs analysis should be undertaken to determine a programme of corrective action. This will normally take the form of a programme of Updating Training.

1.6. CERTIFICATION

Upon successful completion of a programme of Recurrent Training, a course certificate should be issued or the VTS certification log book endorsed.

2. ADAPTATION TRAINING

2.1. INTRODUCTION

As a component of the revalidation process, Adaptation Training should be carried out as deemed necessary by a Competent Authority and/or VTS Authority. A process of Adaptation Training will be implemented whenever

¹ If the VTS certification log is no longer valid due to a break in service or unsatisfactory operational performance then a process of Updating training should be followed before undertaking Recurrent training.

significant changes are expected or have been made, concerning equipment, regulations, operational procedures, the VTS environment or any other matter which is relevant to the performance of the VTSO.

Adaptation Training may be delivered by an individual VTS Authorities or by an Accredited Training Organisation as determined by the relevant Competent Authority and/or VTS Authority. Adaptation Training should be linked to a process combining instruction and practice to provide VTSOs with the competence necessary to perform their roles safely, efficiently and effectively.

2.2. COURSE STRUCTURE

A programme of Adaptation Training should be developed on a case-by-case basis taking full account of the nature of the specific change(s). In order to develop a programme of Adaptation Training, a training needs analysis should be undertaken to determine the nature of the planned change in order to design, develop and implement the required training and to subsequently assess the performance of VTSOs.

A programme of Adaptation Training should consist of a structured scheme of work and/or detailed lesson/training plans for each subject area with clear learning goals. Whilst Adaptation Training should always be planned and structured, the nature and extent of the change(s) and the result of the training needs analysis, will determine the nature and extent of a structured scheme of work and/or detailed lesson training plans.

2.3. ENTRY STANDARDS

The minimum recommended entry requirements for a programme of Adaptation Training are:

- The successful completion of training as specified in IALA Model Course V-103/1, V-103/2 (if applicable) and V-103/3, and;
- The possession of a valid VTS certification log.

2.4. FREQUENCY AND DURATION

Recognising that adaption training should take place when a change(s) is/are expected or have been made, it is not possible to determine a frequency for such training.

It is recommended that a programme of Adaptation Training should take place, if possible, before the change(s) takes place.

In determining the duration of a programme of Adaptation Training, the Competent and/or VTS Authority should consider the complexity and nature of the change(s) when preparing the training objectives.

2.5. CERTIFICATION

Records of attendance and successful completion of a programme of Adaptation Training should be maintained.

3. UPDATING TRAINING

3.1. INTRODUCTION

As a component of the revalidation process, Updating Training should be implemented when VTSOs require additional training other than that covered by the Recurrent Training and Adaptation Training. Updating Training may be required due to a number of reasons:

- After a break in service;
- After a VTS qualification, endorsement or VTS certification log has expired;
- Following an unsatisfactory outcome of the assessment or proficiency check of the performance of a VTSO following a programme of Recurrent Training;
- Upon request of a VTSO;
- When deemed necessary by the Competent and/or VTS authority.

Updating Training may be conducted by an Accredited Training Organisation or by a VTS Authority as determined by the relevant Competent Authority. Updating Training may cover generic and/or area specific elements of competency. This should provide VTSOs with the competence necessary to perform their roles safely, efficiently and effectively.

Therefore, the general objective of Updating Training is to provide a structured means of regaining or re-acquiring professional knowledge and skills as well as the reinforcement of previous training. A training needs analysis should always be an integral part of Updating Training. From this analysis the training goals and methods should be determined prior to training.

3.2. COURSE STRUCTURE

After an event that triggers a requirement for a programme of Updating Training, a suitable analysis to determine any performance gap should be undertaken. This should take the form of a training needs analysis as described in Part B section 4.2 of this Model Course. The results of this training needs analysis should then be used to identify training goals and the associated levels of performance to be achieved by the VTSO who is undertaking an individual Updating Training programme.

The training needs analysis will form the basis of the Updating Training which should be specified in a formal training programme and which should be communicated to the VTSO prior to the training commencing. Such a programme of Updating Training may also include the repetition, in full or in part, of IALA Model Course V-103/1 and/or V-103/3 as deemed appropriate.

It is the responsibility of the Competent and/or VTS Authority to determine the aims and objectives of the programme of Updating Training. The VTSO should always be informed of the aims and objectives of the programme of the Updating Training and also be given full information with respect to the planned duration and format of the training.

The Competent and/or VTS Authority should determine the requirement for Updating Training after a break in service, taking into account the complexity of the VTS area and the VTSOs task. It is recommended to consider undertaking a training needs analysis to determine the requirement for Updating Training after a break in service of three months or more according to the complexity of the VTS area and the VTSOs task.

It is recommended to develop a structured training programme in accordance with IALA Recommendation V-103 which covers and develops the core competencies of VTSOs as determined in the gap analysis. Updating Training may consist of a variety of different methods of teaching.

3.3. ENTRY STANDARD

Updating Training will be an individually tailored programme.

The minimum recommended entry requirements for a programme of Updating are:

- The successful completion of training as specified in IALA Model Course V-103/1, V-103/2 (if applicable) and V-103/3.

3.4. FREQUENCY AND DURATION

Recognising that Updating Training is an individually tailored programme designed to enable VTSOs to regain or re-acquire professional knowledge and skills, it is not possible to determine a frequency or duration for such training. The duration for a programme of Updating Training should be determined as a result of the training needs analysis described in section 3.2.

3.5. CERTIFICATION

Records of attendance and successful completion of a programme of Updating Training should be maintained.

4. REFERENCES

The following primary references have been used in the production of this Model Course:

- IMO Resolution A.857(20);
- IALA Recommendation V-103;
- IALA Model Course V-103/1;
- IALA Model Course V-103/2;
- IALA Model Course V-103/3;
- IALA Model Course V-103/4;
- IALA Guideline 1103;
- IALA Guideline 1014;
- IALA Guideline 1017;
- IALA Guideline 1027;
- IALA Dictionary;
- IALA VTS Manual.

5. ABBREVIATIONS

CPD	Continual Professional Development
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
IMO	International Maritime Organisation
OJT	On-the-Job Training
SAR	Search and rescue
STCW	Seafarer's Training, Certification and Watchkeeping Code
TTI	Teacher-Trainer-Instructor
VHF	Very High Frequency Radio
VTS	Vessel Traffic Service
VTSO	Vessel Traffic Service Operator

ANNEX A

A 1. EXAMPLE RECURRENT TRAINING PROGRAMMES

In order to assist Competent and/or VTS Authorities in the preparation of programmes of Recurrent Training, examples are provided within this annex. These examples have been provided by Competent and/or VTS Authorities and demonstrate how specific approaches have been taken to meet national and/or local requirements.

These examples are for information only and do not represent definitive recommendations as to how Recurrent Training may be organised and conducted.

A 1.1. EXAMPLE RECURRENT TRAINING PROGRAMME CONDUCTED OVER THREE YEARS

In order to have a full training programme covering the different elements of the VTS task, this example of a Recurrent Training consists of four parts every year. The goal is to ensure:

- currency at the work station;
- update of theory as required for the job at hand;
- to understand the broader frame in which the task is carried out;
- to provide an assessment to determine currency of the VTSO.

Year one

In year one the VTSO will undertake three separate activities in addition to a process of operational performance monitoring:

- Simulator training;
- Theory update;
- Practical activity.

The VTSO will undertake **simulator training** on non-routine situations. This should consist of a minimum of 2 hours effective training time during which the VTSO should be exposed to situations which do not occur often enough in real life to have sufficient exposure. Nonetheless, these situations require swift and effective responses from the VTSO. The goal is to increase exposure to these kinds of situations and to give the VTSO the opportunity to train the situation several times until they can perform the accompanying tasks with some fluency.

The two hours training time may include briefing and debriefing, since these are also effective components of training. The VTS Authority will have a standardised programme developed for every VTSO during the year. The simulator session is designed to coach the VTSO, consequently the coaching is not directly intended to assess the VTSOs performance. The training is designed for the VTSO to learn and develop his competence. The role of the VTSO should be active during this part of the training, enabling the VTSO to comment on the situation presented during the exercise, to debate solutions with the trainer and to ask to do parts of the training again. The training should be student-centred.

A further component of the year one training is an **update in theory**, either by means of direct training or as e-learning. The topics covered should be determined by the VTS Authority and could include changes in working environment, rules and regulations, human factors, operational procedures, language and communication etc. This part of the training programme is also standardised and should be developed by trainers equipped with a current knowledge with regard to didactics. It is recommended to have a more or less fixed work load. People may be expected to read 6 pages an hour. This should enable the employer to allocate sufficient time to the VTSO to study the material presented.

The final part of the year one training is **practical activity**. The goal of this practical activity is to gain additional knowledge of the environment the VTSO is working in. The content and the amount of time allocated to this

activity should be determined by the VTS Authority. Examples of such practical training are visiting another VTS centre, making a trip on a vessel, participating in a project etc. This practical activity should be accompanied by a work book in which the learning goal of the activity is linked to a number of questions, thereby enhancing the learning and integration of this experience into the VTSOs role.

Additionally, during each year, the performance of the VTSO should be monitored as required by IMO Resolution A.857(20) and IALA Recommendation V-103. The VTS Authority may monitor the operational performance of the VTSO by means of reviewing the VTSOs performance and adherence to standard operating procedures.

The VTS Authority may achieve this by means of reviewing recordings of the traffic image and communications as a means to monitor the performance of the VTSO several times a year. The results of this monitoring are placed in a database in order to categorise and therefore gain insight of possible patterns within a team or a VTS centre. Ideally this activity is part of a Safety Management System in which the outcome is recorded. It is highly recommended that the VTS Authority monitors performance at least twice a year and the results of the monitoring should be discussed with the VTSO.

Such monitoring should be accompanied by clear and set agreements to ensure the privacy of the VTSO. It is highly recommended that a protocol is developed which gives insight into the fact that the VTSO is being monitored, what the purpose of the monitoring is, what information is gathered, who has access to this information and what the procedure is for the use of this information. Furthermore, the VTSOs opportunity for receiving feedback on the monitoring should be clarified and what consequences and actions may stem from the monitoring.

Year two

The second year follows a similar process to year one with some modifications.

In the second year, the VTSO engages in additional personal development activities. This involves the VTSO selecting and agreeing with the VTS Authority an activity which will improve their performance. This part of the training is to emphasise and stress the VTSOs own personal responsibility for their proficiency and continual professional development. Such activities may include an individual/tailor made simulator session, theory update, additional course, inter-colleague assessment or any other activity which adds to their continual professional development.

Year three

The second year follows a similar process to year one with some modifications.

In the third year, the VTSO undertakes an additional period of simulator training focussing on specific areas in detail. This may include emergency situations.

Proficiency Check

At least once every three years a proficiency check should be conducted. The aim of the proficiency check is to demonstrate the level of competence of the VTSO, measured by an independent examiner/assessor (not being their coach). The proficiency check is a formal and standardised assessment to determine the level of competence. The result of this proficiency check is provided to the VTS Authority as a conclusion. The outcome of the proficiency check does not have an immediate effect on the career of the VTSO but it may influence the need for a training needs analysis. It is highly recommended that the VTSO has at least one appraisal interview a year with VTS management. The outcome of the proficiency check should be an integral part of this appraisal interview. As a result, the responsibility for the continued professional development of current VTSOs lies with the VTS Authority.

This sample programme of Recurrent Training is summarized in the following table:

YEAR 1	YEAR 2	YEAR 3
SIM TRAINING NON-ROUTINE	PERSONAL DEVELOPMENT / SIM TRAINING	SIM TRAINING INCIDENT
THEORY UPDATE	THEORY UPDATE	THEORY UPDATE
PRACTICE	PRACTICE	PRACTICE
MONITORING	MONITORING	MONITORING
PROFICIENCY CHECK		

Table 2 Sample schedule of Recurrent Training

The order of non-routine and incident/accident is trivial. It is for the VTS Authority to decide on the content of the simulator training.

Hours per year

Sim-session	2 hours
Theory update	approximately 4 hours (20 pages)
Practice	as applicable
Monitoring	0 (during work)
Proficiency check	2 hours

Establishing a norm

It is of the utmost importance that the process of Recurrent Training leads to a valid outcome. The outcome of the proficiency check is of major importance to the VTS Authority and to the VTS Operator. It is therefore of the utmost importance that the VTS Authority can prove that especially the proficiency check has a standard.

Below you find an example of establishing a norm for the VTS centre involved. On the left you find the several competences of the VTS Operator (taken from the topics within Model Course V-103/1). Every activity of a VTS Operator can be either routine, complex (if for example there are difficult ships, extraordinary circumstances, bad weather) or there may be a disturbance (break down of communication, interference of some sort, non-compliance and so on). Routine situations are given a difficulty of 1 point, complex situations should have a difficulty of 2 points and a disturbance is given 3 points.

1. The first step in the process is to make an exercise of which the instructors feel is the appropriate level for the sector involved.
2. The instructors should then fill the underneath table with events according to being routine, complex or a disturbance.
3. Every critical event in the exercise will get a grade. The summation of grades over the entire exercise is the norm for this sector. If the norm-exercise is 30 minutes then all the following exercises should be either 30 minutes or a relative norm should be established. For example if the exercise of 30 minutes is 90 points, the norm per minute is 3. If you make an exercise of 45 minutes the difficulty should be $45 * 3 = 135$. Be aware that the VTS Operator may experience the exercise of 45 minutes as more difficult than the 30 minute exercise.
4. This process will ensure that the exercises which are being developed are all of an equal level of difficulty.

In the table below you find an example.

Competence	Level	Pnt	Situation	Number	
Cooperation					5
	Routine	1	Call neighbouring centre, inform colleague, inform management, order a pilot		
	Complex	1	Hand over incident / accident		
	Disturbance	1	Inform neighbouring centre about obstruction		
Language					15
	Routine	1	Sector report, leaving vessel, shifting vessel		
	Complex	2	Leaving vessel with foreign language, shifting berth		
	Disturbance	2	Unidentified vessel		
Creates Traffic Image					5
	Routine	1	Handover, priority reporting, prioritising messages		
	Complex	2	Incomplete handover Sea sector		
	Disturbance	3	non-compliance of vessel		
Equipment					35
	Routine	1	IVS-ident Notice to mariners/nautical exceptions Feedback appointment		
	Complex	2	delayed message		
	Disturbance	1	Port information system wrong or missing		
Traffic Management					50
	routine	1	Inbound, outbound with report to third party ship		
	Complex	2	Position call, tide ports, lock planning berth planning, second language, constrained vessel, main fairway and secondary fairway with		
	Disturbance	3	Works, nautical exceptions, bad view, course crossing with disturbance, difficult tow instruction		

Competence	Level	Pnt	Situation	Number	
	Disturbance	5	Unexpected behaviour vessel		
Manages incidents	15				
	Potential dangerous situations	5	Danger of collision		
	Emergency incident	10	Dealing with incident		

When an exercise for example is 45 minutes and has 100 points, the developer may choose 100 easy events from 1 point each. If he chooses one incident of 15 points, the remaining events should not exceed 85 points together. In this way the developer of the exercise has a standard, but still sufficient choice to tailor the exercise to the regional characteristics of the traffic.

It is up to the VTS-authority to change the content of the table with regard to the topics included and the perceived complexity of each of the items. However, the table should be part of the training syllabus and made available to both TTIs and VTSOs.

A 1.2. EXAMPLE RECURRENT TRAINING PROGRAMME CONDUCTED OVER THREE YEARS

Maintaining Standards

VTSOs have established their role as maritime professionals contributing to the safety and efficiency of coastal and port vessel traffic. VTSOs are recognised as professionals and require that the quality of professional skills, competence and standards are assured through a process of annual assessment, Refresher Training and revalidation.

Annual Assessment

The continual assessment of all VTSOs by their respective VTS Authorities is recommended as good practice. Documented evidence of on-the-job formal assessment should be recorded in the VTS certification log at intervals not exceeding one year. If occasions arise where VTSOs are found to be no longer competent, they should be removed from operational duties and given appropriate Updating Training until such time as they are considered competent.

Continual Professional Development

VTS Authorities should provide training and development opportunities for VTSOs to keep them abreast of technological advances, policy, procedures and good working practice in VTS.

VTS Authorities are recommended to develop a programme of ongoing Continual Professional Development (CPD) to ensure that the standard of training achieved during V-103/1 VTS Operator/ V-103/2 VTS Supervisor courses as well as V-103/3 On-the-Job is maintained. CPD may consist of the following areas:

- Review and analysis of lessons learned from local VTS operations;
- Regular updates of regulatory, procedural and technological developments;
- Continual development through familiarisation trips on vessels with Pilots or other stakeholders;
- Visits to allied services, adjacent VTS Centres or other similar organisations;
- Attendance and participation in relevant emergency or procedural exercises.

Recurrent Training

VTSOs (including VTS Supervisors) are required to undergo VTS Recurrent Training every 3 years, either through a formal VTS Recurrent Training course conducted by an accredited VTS training organisation, or in-house by means of a course approved by the Competent Authority. In-house training by an individual VTS Authority will only be approved where there are appropriate resources and training expertise in order to achieve the Recurrent Training standard.

A VTS Recurrent Training course, approved by the Competent Authority, aims to provide professional development training to ensure that the competence, knowledge and skills of VTSOs are being maintained and updated on a periodic basis. The VTS Recurrent Training course should comprise approximately 10 hours of lectures, presentations and workshops and 10 hours of simulation presented over three consecutive days on an approved course at an accredited VTS training organisation or VTS Authority.

The Competent Authority recognises that the course content will constantly evolve, be job-centred and relate directly to:

- maintenance of operational standards;
- recent changes, current/emerging trends and good practice that have been identified or promulgated by the IMO, IALA, Harbour/Port Authorities, Competent Authorities, VTS Authorities, Pilotage Associations, accredited VTS Training Organisations, etc.;
- existing and evolving technological developments that may have an impact on the VTS environment; and
- lessons to be learnt from and relevant recommendations made by the Competent Authority, the marine accident investigation organisations and others as a result of studies/investigations that may have an impact on the delivery of VTS.

The VTS Recurrent Training course will evaluate a candidate's ability in the following areas as per IALA Model Course V-103/1:

- Equipment;
- Use of VHF Radio;
- Personal Attributes;
- Traffic Management;
- Emergency Operations;
- Communications Coordination.

VTS Authorities adopting a process of in-house VTS Recurrent Training should cover the same course content as outlined for the Recurrent Training course in the paragraph above. This may be achieved either as a regular course or through a process of CPD to a syllabus approved by the Competent Authority.

The VTS Recurrent Training programme and Training Record Book should, in the first instance, be submitted to the Competent Authority for approval to ensure compliance with this Model Course. This process only applies to VTS Authorities conducting in-house training for their own staff. Trainers for in-house Refresher Training should, as a minimum, be a qualified V-103/4 OJT Instructor. However, training may be supported by instruction from subject matter experts who may not be qualified as VTS OJTIs. VTS Authorities who intend to provide Recurrent Training to other VTS Authorities are required to obtain accreditation as a VTS training organisation from the Competent Authority which will, in turn, require delivery of the training by appropriately qualified staff.

VTS Authorities opting for a Recurrent Training course shall ensure that all VTSOs undergo such training every three years.

VTS Authorities conducting VTS Recurrent Training in the form of CPD may spread the training over a three year cycle as best suits the operational needs and requirements of the VTS Authority.

VTS training organisations will issue a certificate on successful completion, and to an appropriate standard, of the Recurrent Training course. VTS Authorities conducting in-house training should maintain a training record and ensure that the appropriate training has been achieved.