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Author(s) / Submitter(s) China Maritime Safety Administration

**Proposal on Clarification and Optimization of the Curriculum of Model Course C0103-5**

# Summary

This document aims to provide specific suggestions for the revision of Model Course C0103-5. Drawing on the latest provisions of G1156, the requirements of IMO Resolution A.1158(32), and VTS training experience of China MSA, it puts forward targeted suggestions in three key areas: classification of training approaches, structural design, and content updating. The goal is to ensure that the model course better aligns with current VTS operational needs and future development trends.

## Purpose

Based on current VTS operational practices and training experience, this paper assesses the relevance of the existing course structure and content, identifies key issues concerning training targets, curriculum structure, and content updating, and proposes optimization suggestions for discussion. It intends to provide references for the subsequent revision of Model Course C0103-5, facilitating its alignment with the maintenance of VTS operators’ competence and adaptation to future capability requirements.

**1.2 Related documents**

IMO Resolution A.1158(32)

G1156 Recruitment, Training and Certification of VTS Personnel

R0103 Training and Certification of VTS Personnel

C0103-5 The Revalidation Process For VTS Qualification and Certification

VTS57-10.1.1 Proposal on Revising Model Course C0103-5

Revised C0103-5 for ICG-04

Review G1156-Reviewed-ICG-04

# Background

In accordance with the latest requirements of G1156 *Recruitment, Training and Certification of VTS Personnel* and IMO Resolution A.1158(32), Model Course C0103-5 needs comprehensive updates in terms of its training targets, training formats, and assessment mechanisms for revalidation. In previous practice of VTS operation and talent cultivation, China MSA has also found that a uniform and static course structure fails to meet the diverse needs of different VTS roles and lacks data-driven analysis and operational guidance in intelligent VTS scenarios.

During the meetings of VTS56 and VTS57, several Member States recommended that the course should focus on practical operational skills and dynamic competence assessments, and advocated a modular, role-oriented course design. At the intersessional meeting, the working group further clarified that C0103-5 should apply only to on-the-job VTS personnel who have completed initial training (e.g., C0103-1/-3), meaning that basic instructional content should be replaced by competence enhancement program.

At the ICG-04 intersessional meeting, these adjustments were formally incorporated into the revised course draft, and corresponding implementation details—such as revalidation pathway classification, task analysis methods, and principles for applying e-learning—were reflected in the revised G1156 draft.

While general agreement on the course positioning has been reached, further refinement is required regarding its implementation pathways, role-based differentiation, and future-oriented content to enhance the course’s applicability and effectiveness across different states.

# Discussion

## Refining Training Approaches

As per the revisions adopted during ICG-04, Model Course C0103-5 is now explicitly designated for on-the-job VTS personnel who have completed initial training, with the training objective focusing on maintaining competence and adapting to changes in technology, services, and organizational structures. Therefore, it is recommended that revalidation training approaches be further refined for different operational scenarios to enhance the course’s relevance and practical implementation.

Suggestions are as follows:

* For personnel whose certificates are about to expire or who have been absent from duty for less than 3 months, revalidation may be achieved through a streamlined “update training” program with simplified content.
* For those who have been absent for 3 to 12 months or are undergoing a role change, a full “revalidation training” or “adaptation training” program should be provided, with training content tailored to the role changes.
* For those who have been absent for more than 12 months or are assuming a new functional role, emphasis should be placed on practical retraining and adaptation modules to strengthen operational readiness and situational response capabilities.

In addition, it is recommended to clarify that the implementation methods adopt a hybrid approach combining centralized teaching, phased modular training, and on-the-job capability confirmation based on the actual situation of the national VTS training system. The approach aims to improve execution efficiency while ensuring training quality.

## Implementing Role-Based Modular Training

The current C0103-5 course does not differentiate between various VTS roles, resulting in overly simplistic training content that fails to meet the practical needs of operators, supervisors, and information/system support staff. It is recommended that the course be divided into functional modules, with combinations of modules delivered according to role responsibilities. Suggested core modules include:

* Operator Module: focus on standard communication languages, traffic organization, and incident reporting, and reinforced through refresher training on frequent daily tasks.
* Supervisor Module: emphasize risk assessment, traffic coordination, and team leadership, including simulator-based training for complex scenarios such as large vessel encounters, severe weather, and equipment failures.
* Information/System Support Module: cover system operation, data compilation and transmission, equipment monitoring, and routine maintenance, with an emphasis on adapting to technical upgrades.

The course should be designed based on task analysis for different roles, with clearly defined learning objectives to reduce content redundancy and improve training quality. General topics such as regulatory updates and safety culture can be retained as shared modules.

## Adding Emerging Knowledge

To enhance the adaptability and forward-looking nature of Model Course C0103-5, it is recommended to introduce several thematic modules, such as:

* Future VTS: Introduce IALA’s framework for Future VTS, adjustments to service types (INS, TOS, NAS), and concepts such as remote VTS. This helps trainees understand the evolving functions of VTS and future changes in role responsibilities.
* Application of Intelligent Support Functions: Explain the principles and use of AI-assisted decision-making, trajectory prediction, and automated alerts. Through scenario-based training, participants learn to evaluate the reliability of system outputs, reducing misjudgments and over-reliance.
* Maritime Services and Data Integration: Cover the concept of Maritime Services and the role of VTS in multi-source information coordination, including interfaces with MSI, Port Information Services, data fusion of AIS, VHF, radar, etc., and data-sharing technologies such as VDES and SWIM.

These thematic modules are recommended as optional components of C0103-5 and can be flexibly combined based on regional characteristics and participants’ roles. Theoretical components may be delivered online, while practical components should involve simulator-based or scenario-driven exercises to improve flexibility and effectiveness.

# SUGGESTION

It is recommended to refine the training approaches by adjusting course content and format based on trainees’ certificate status, time away from duty, and job role changes.

A modular course structure should be adopted to differentiate training content for operators, supervisors, and information support personnel.

Additionally, emerging topics such as Future VTS and digital development should be introduced to enhance the course’s forward-looking focus and adaptability.

**5 Actions requested of the Committee**

The Committee and Member States are requested to consider the content of this proposal and take actions as appropriate.

1. Input document number, to be assigned by the Committee Secretary [↑](#footnote-ref-1)
2. Leave open if uncertain [↑](#footnote-ref-2)