

**Model Course V-103/4**

**Vessel Traffic Services**

**On-the-Job Training Instructor**



**December 2001**



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## Foreword

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

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

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

Model Course V-103/1 - VTS Operators  
Model Course V-103/2 - VTS Supervisor  
Model Course V-103/3 - On-the-Job Training  
Model Course V-103/4 - OJT Instructor

These model courses are intended to provide IALA Members and other appropriate Authorities charged with the provision of Vessel Traffic Services with specific guidance on the training of VTS Operators, VTS Supervisors and VTS Instructors. They may be used by maritime training Institutes and assistance in implementing any course may be obtained through the Association at the following address:

The Secretary General,  
IALA/AISM,  
20ter rue Schnapper,  
78100 Saint Germain en Laye,  
France

Tel: (+) 1 33 34 51 70 01  
Fax: (+) 1 33 34 51 82 05  
e-mail:iala-aism@wanadoo.fr

## Section 1 - Introduction

### **Purpose of the Model Course**

The purpose of the model course is to assist VTS Centres and their Instructors in delivering On-the-Job training courses, and in enhancing and complementing existing training material where the quality and effectiveness of the training courses may thereby be improved to fully meet the intent of IALA Recommendation V-103.

The required standard of competence is considered to be the level of proficiency that should be achieved for the supervision and delivery of training by OJT Instructors. The training should take into account the level of competence already acquired and build on this to meet the needs of the trainee and the VTS Centre.

It is not the intention of the model course to present Instructors with a rigid teaching package which they are expected to follow blindly. The knowledge, skills and dedication of Instructors are key components in the transfer of knowledge and skills to those being trained through this model course material.

To assist in the development of lesson plans and training courses five levels of competence are used in the Model Courses for VTS Personnel. Each level of competence is defined in terms of the learning outcome, the instructional objectives and the required skills.

### **Use of the Model Course**

This course is intended to cover the knowledge and practical competence required by an Instructor of the OJT for VTS Personnel.

The course is designed to ensure trainees are provided with realistic exercises on their role as On-the-job Instructors for VTS. These exercises should, wherever practicable, use simulation. However, where simulation is not practicable, the exercises should be designed to be fully representative of appropriate situations that occur in a VTS OJT environment.

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

1. Structured to relate On-the-Job Training methodologies to job performance, standard operating procedures and elements applicable to the VTS Centre concerned;
2. Presented in a realistic, competence-based environment; and
3. Conducted monitored and evaluated by persons qualified in accordance with the STCW Code Section A-I/6 and IALA Recommendation V-103.

Training personnel should review Section 3 - COURSE OUTLINE and the detailed syllabus in each subject. The actual level of knowledge, skills and prior educational qualifications of the trainees should be kept in mind during this review. Any differences between the level of skills and competencies of the trainee and those identified within the detailed training syllabus should be identified. To compensate for such differences, the Instructor is expected to adjust the course content to recognise knowledge or skills already attained and demonstrated at that particular VTS Centre by the trainees. The Instructor should also identify any academic knowledge, skills or technical training that the trainees may not have acquired.

Adjustment of the module objectives, scope and content for each subject may also be necessary if the VTS OJT Instructor trainees completing the course are to undertake duties which differ from the objectives specified.

## **Lesson Plans**

The Instructor should draw up lesson plans based on each section of the syllabus and include references to textbooks and teaching material suggested for the course. Where no adjustment has been found necessary in the learning objectives, the lesson plans may simply consist of the syllabus with keywords or other reminders added to assist the Instructor in making his presentation of the material. Lesson Plans should emphasise the unique aspects of training methodology and coaching skills required by On-the-Job Training Instructors.

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 basic training of VTS Operators and levels 3 to 5 are used in the Model Course for advancement to VTS Supervisor.

Each level of competence is defined in terms of the learning outcome, the instructional objectives and the required skills. The recommended level of competence for each subject is indicated in Section 3 - COURSE OUTLINE of each Module.

Section 3 - COURSE OUTLINE includes a recommended time that should be allotted to each subject. However, it should be appreciated that these allocations are arbitrary and assume that the trainees have met fully all of the entry requirements specified for each subject. The Instructor should therefore review carefully these time assessments during course and lesson plan design and consider the need to reallocate the time required to achieve each specific learning objective.

In preparing a teaching scheme and lesson plans, the Instructor is free to use any teaching method or combination of methods that will ensure trainees can meet the stated objectives. However, it is essential that trainees attain all objectives set out in each syllabus.

<b>Learning Outcome</b>	<b>Instructional Objectives</b>	<b>Skill</b>
<p><b><u>Level 1</u></b> Work of a routine and predictable nature generally requiring supervision</p>	<p><b><u>Comprehension.</u></b> Understands facts and principles; interprets verbal/written material; interprets charts, graphs and illustrations; estimates future consequences implied in data; justifies methods and procedures</p>	<p><b><u>Guided response.</u></b> The early stages in learning a complex skill and includes imitation by repeating an action demonstrated by the Instructor and using a multi-response approach (trial and error method) to identify an appropriate response</p>
<p><b><u>Level 2</u></b> More demanding range of work involving greater individual responsibility. Some complex/non-routine activities</p>	<p><b><u>Application.</u></b> Applies concepts and principles to new situations; applies laws and theories to practical situations; demonstrates correct usage of methods or procedures</p>	<p><b><u>Autonomous response.</u></b> The learned responses have become habitual and the movement is performed with confidence and proficiency</p>
<p><b><u>Level 3</u></b> Skilled work involving a broad range of work activities. Mostly complex and non-routine</p>	<p><b><u>Analysis.</u></b> Recognises un-stated assumptions; recognises logical inconsistencies in reasoning; distinguishes between facts and inferences; evaluates the relevancy of data; analyses the organisational structure of work</p>	<p><b><u>Complex overt response.</u></b> 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</p>
<p><b><u>Level 4</u></b> Work that is often complex, technical and professional with a substantial degree of personal responsibility and autonomy</p>	<p><b><u>Synthesis.</u></b> Integrates learning from different areas into a plan for solving a problem; formulates a new scheme for classifying objects or events</p>	<p><b><u>Adaptation.</u></b> Skills are so well developed that individuals can modify movement patterns to fit special requirements or to meet a problem situation</p>
<p><b><u>Level 5</u></b> Complex techniques across wide and often unpredicted variety of contexts. Professional/senior managerial work</p>	<p><b><u>Evaluation.</u></b> 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</p>	<p><b><u>Origination.</u></b> The creation of new practices or procedures to fit a particular situation or specific problem and emphasise creativity based upon highly developed skills</p>

Levels of Competence

## Presentation

Competent Authorities should ensure that Instructors are appropriately qualified and experienced for the particular types and levels of training and corresponding assessment of competence as described in Tables 1 and 2 of IALA Recommendation V-103. In addition to this, the OJT Instructor course should ensure that Instructors have an appropriate balance of professional VTS knowledge and academic qualifications. The unique requirements of the one-on-one training style required by OJT should be stressed, and lesson plans must contain references to Standard Operating Procedures textbooks, teaching materials, teaching aids and student material that will be required during the presentation of the course.

The presentation of concepts and methodologies may be repeated in various ways until the Instructor is satisfied that the trainee has attained each specific learning objective. The syllabus in each subject is laid out in learning-objective format and each objective specifies what the trainee must be able to do as the learning outcome.

## **Implementation**

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

- Qualified Instructors
- Support staff
- Rooms and other spaces
- Equipment
- Textbooks, technical papers
- Other reference material.

Thorough preparation is the key to successful implementation of the course.

## **Validation**

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

## Section 2 - Course Framework

### Scope

This course is intended to provide the training and practical guidance required to become an effective Instructor for OJT of VTS Operators and VTS Supervisors. Successful completion of this training must be indicated in their VTS Certification Log issued in accordance with IALA Recommendation V-103.

### Objective

The OJT Instructor will acquire basic skills and a practical ability to demonstrate appropriate instructional techniques unique to On-the-Job Training. They should also be fully conversant with the processes and procedures required to meet OJT requirements of specific VTS Centres in which the training takes place. Endorsement of the Certification Log to carry out the duties of an OJT Instructor will be subject to the terms set out in IALA Recommendation V-103.

Specifically, the training programme should ensure that all candidate Instructors:

1. have a detailed knowledge of the VTS Centre On-the-Job Training programme;
2. have a thorough understanding of the specific On-the-Job Training objectives;
3. are qualified in the task for which training is being conducted and assessment is being made;
4. have successfully completed appropriate training in On-the-Job Training instructional techniques;
5. have an appropriate level of knowledge & understanding of the competence to be assessed;
6. have received appropriate guidance in the creation and monitoring of an OJT Task Book;
7. have successfully completed appropriate training in OJT assessment methods;
8. have gained practical assessment experience;
9. where a simulator is used, have gained practical operational simulator experience; and
10. where a simulator is used, have gained practical assessment experience on the particular simulator, under supervision and to satisfaction of an experienced assessor.

### Entry Standard

Minimum entry standards for Instructor of On-the-Job training:

- **VTS Operator:** hold a valid VTS Operator or VTS Supervisor Certificate in accordance with all provisions of V-103, successful completion of VTS OJT Instructor Training and have appropriate VTS operational experience at the specific VTS Centre; (to be determined by the Competent Authority) or

- **VTS Supervisor:** should ideally hold a valid VTS Supervisor Certificate in accordance with all provisions of V-103, successful completion of VTS OJT Instructor Training and appropriate VTS operational experience as a VTS Supervisor at the specific VTS Centre (to be determined by the Competent Authority).

## **Requirements for gaining endorsement in the VTS Certification Log**

Every candidate for gaining an endorsement in the VTS Certification Log should satisfy the requirements of the Competent Authority by successfully completing the training for OJT Instructor.

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

An adequate period of time should be allowed at the end of the course for revision and review of the course content. That period and the time occupied by assessments may be additional to the times shown in Section 3 - COURSE OUTLINE.

## **Course intake - limitations**

Class sizes may be limited at the discretion of the Competent Authority in order to allow the Instructor to give adequate attention to individual trainees. In general it is recommended that a maximum of 12-14 students be the upper limit that a single Instructor can be expected to train satisfactorily to the level of competence involved. Larger numbers may be admitted if extra staff and tutorial periods are provided to deal with trainees on an individual basis.

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 is involved, it is recommended that no more than two students be trained simultaneously on any individual workstation or piece of equipment.

## **Training staff requirements**

Accredited training programmes for VTS OJT Instructors should ensure that the qualifications and experiences of Instructors and assessors are covered in the application of appropriate quality training standards. Such qualifications, experience and application of quality standards should incorporate appropriate training in instructional techniques, training and assessment methods and practices, and comply with all applicable recommendations set out in the following paragraphs.

As well as Instructors, Supervisors and Assessors, additional staff may be required for the maintenance of equipment and for the preparations of materials, work areas and supplies for the practical work.

## **Instructors**

Any person conducting training of personnel qualifying for certification as VTS OJT Instructor should:

1. have a detailed understanding of the training programme and of the specific training objectives for the particular type of training being conducted;
2. be appropriately qualified in the task for which training is being conducted;
3. have an appropriate balance of professional and teaching qualifications;
4. if conducting training with the use of a simulator:
  - 4.1 have received appropriate guidance in instructional techniques involving the use of simulators; and,
  - 4.2 have gained practical operational experience on the particular simulator being used.

## **Supervisors**

Any person responsible for the supervision of training of personnel should have a full understanding of the training programme and the specific objectives for each type of training being conducted.

## **Assessors**

Any person conducting assessment of competence of personnel which is intended to be used in qualifying for certification as a VTS OJT Instructor should:

1. have an appropriate level of knowledge and understanding of the competence to be assessed;
2. be qualified in the task for which the assessment is being made;
3. have received appropriate guidance in assessment methods and practices;
4. have gained practical assessment experience; and,
5. if conducting assessment involving the use of simulators, have gained practical instruction on the particular type of simulator under the supervision, to the satisfaction of an experienced assessor.

## **Teaching facilities and equipment**

Facilities other than an ordinary classroom fitted with a blackboard or whiteboard, an overhead projector or computer-assisted projector and screen are given in the individual subject frameworks.

In order to assist Instructors, references are shown against the learning objectives in the modules to indicate references and publications, additional technical material and teaching aids that the Instructor may wish to use when preparing and presenting the course. The material listed in the subject frameworks has been used to structure the detailed teaching syllabuses; in particular:

- Teaching aids (indicated by A);
- Equipment needed by trainees (indicated by E)
- References (indicated by R);

will provide valuable information to Instructors.

## References

As a guide, the references that are relevant to the planning of VTS training are listed below. It should be noted that this list is by no means exhaustive and instructional staff should endeavour to use any appropriate works of reference and also ensure that those used are up to date.

- R1 SOLAS '74 Regulation V/10 - Ships' Routeing
- R2 SOLAS '74 Regulation V/11 - Ship Reporting Systems
- R3 SOLAS '74 Regulation V/12 - Vessel Traffic Services
- R4 SOLAS '74 Regulation V/19 - Carriage requirements for systems and navigation equipment
- R5 SOLAS '74 Regulation V/13 - Aids to navigation
- R6 SOLAS '74 Regulation V/27 - Nautical charts and publications
- R7 International Regulations for Preventing Collisions at Sea, 1972, as amended - (COLREGS)
- R8\* IMO publication on Ships' Routeing (IMO-927E, IMO-928F, IMO-929S)
- R9 International Maritime Dangerous Goods Code (IMDG Code) - 1994, as amended.
- R10 International Convention on Standards of Training, Certification and Watchkeeping of Seafarers, 1978, as amended in 1995 (STCW Convention)
- R11 Seafarer's Training, Certification and Watchkeeping Code (STCW Code)
- R12 Resolution 10 of the 1995 Conference of Parties to the International Convention on standards of Training, Certification and Watchkeeping for Seafarers, 1978
- R13\* IMO Assembly resolution A.851(20), General principles for ship reporting
- R14\* IMO Assembly resolution A.857(20), Guidelines on VTS
- R15\* IMO Publication "International Aeronautical and Maritime Search and Rescue (IAMSAR) manual" - in three volumes:
  - Vol 1 (IMO 960) ISBN 92-801-1462-X
  - Vol 2 (IMO 961) ISBN 92-801-6087-7
  - Vol 3 (IMO 962) ISBN 92-801-6085-0
- R16 IALA Recommendation V-103, Standards of Training and Certification of VTS Personnel.
- R17 IALA Vessel Traffic Services Manual
- R18 IALA Aids to Navigation Guide (NAVGUIDE)

- R19\* IMO Standard Marine Navigational Vocabulary (IMO-985E, IMO986F, IMO-988S)
- R20\* IMO Standard Marine Communication Phrases (IMO MSC/Circ. 794 (May 30, 1997))
- R21\* International Code of Signals (IMO-994E, IMO-995F, IMO-996S)
- R22 IELTS Handbook - British Council, or equivalent
- R23 Practice Tests for IELTS. Jakeman & McDowell. Cambridge University Press.  
ISBN 0521 497 671, 0521 497 663
- R24 United Nations Law of the Sea (UNCLOS)
- R25 Seaspeak Training Manual ISBN 0-08-031555-0
- R26 Marine engineering knowledge (such as: General Engineering Knowledge, by McGeorge, H.D.(Kandy publication), ISBN – 0750600063)
- R27 Marine Communications Handbook - Lloyds of London
- R28 Marine Communications Handbook - Inmarsat
- R29 ITU Radio Regulations, including Appendices
- R30 English for Maritime Studies, 2nd edition, Blakely, published by Prentice Hall  
ISBN 0-13-281-379-3
- R31 Ship to shore: Nautical Terms in everyday English
- R32 Glossary of Marine Technology Terms. Institute of Marine Engineers, ISBN 0434908401
- R33 STCW Code, Section B, Chapter VIII, Part 3-1, Guidance on keeping a navigational watch
- R34\* IMO Resolution A.705(17) - Promulgation of Maritime Safety Information (MSI)
- R35 Equipment and system operating manuals
- R36 Radar and Electronic Navigation - G J Sonneberg, ISBN 0-408-00272-7
- R37 Handbook of Data Communications, published by NCC Publications, ISBN 0-85012-363-1
- R38 GMDSS Handbook (IMO-970E and IMO-971E)
- R39 International Maritime Buoyage System, published by IALA
- R40 IHO approved documents of charts and publications
- R41 Fundamentals of Human Communications, Revised Edition, King, R. G., (1991), Macmillan Publishing Company, New York. ISBN 0023642815
- R42 Articulation and Voice: Improving Oral Communication, King, R. G., and DiMichael, E. M., (1978), Macmillan Publishing Company, New York
- R43 Developing Your Communication Skills, McMaster, R. G., (1978), Longman Canada Limited, Ontario. ISBN 0774711167
- R44 Communication Skills, Panton, P., (1980), Hutchinson & Co. (Publishers) Ltd, London. ISBN 0091412811
- R45 ITU-R M Recommendation 493
- R46 ITU-R M Recommendation 541
- R47 ITU-R M Recommendation [8C/XA], Technical characteristics for a universal shipborne automatic identification system using time division multiple access in the maritime mobile band
- R48
- R49 SOLAS '74 Regulation V/15 - Search and Rescue
- R50\* IMO COMSAR/Circ.15 - Joint IMO/IHO/WMO Manual on Maritime Safety Information (MSI)

- R51 National procedures and standards for operation of International Convention for the prevention of pollution from ships (MARPOL)
- R52 Local/Regional Contingency requirements
- R53 National, Regional and Local Legislation and Regulations on VTS, Ports, Harbours, Pilotage and Allied Services
- R54 National Notices to Mariners pertaining to VTS
- R55 National procedures and standards for operation of VTS
- R56 How to use the IMO SMCP. Weeks, published by Witherby, London ISBN 8420507679
- R57 PIANC Bulletin No. 16 'Big Tankers and their Reception' (1973)
- R58 PIANC Bulletin No. 35 'Reception of Large Ships' (1985)
- R59 PIANC Bulletin No. 51 'Underkeel Clearance for large ships' (1985)
- R60 PIANC-IAPH Report, Bulletin No. 87 'Approach Channels' (April, 1995)

\*There is an annual catalogue of IMO Publications, many of which are printed in languages other than English. The catalogue provides ISBN and IMO references to these publications and the price, together with order forms, which may be faxed. Additionally, Training Institutions and Course Co-ordinators should note that groups of publications are also made available on CD-ROM, and may be a more convenient method of obtaining some of the data that they require.

The catalogue contains a list of national distributors situated in 43 countries world-wide who maintain stocks of IMO Publications.

The IMO Publications catalogue is available free of charge from:

Publications Section  
International Maritime Organization  
4 Albert Embankment  
LONDON SE1 7SR

Tel: +44 (0) 2077 357611  
Fax: +44 (0) 2075 873241  
e-mail: [publications.sales@imo.org](mailto:publications.sales@imo.org)

## Section 3 - Course Outline

The course should contain a range of practical assignments and tasks to be performed by trainees to ensure competence and confidence as OJT Instructors (OJTI). The assignments and tasks should be set to provide knowledge of one-on-one training techniques and coaching skills and should include, but not necessarily be limited to, the following subjects:

SUBJECT	Recommended Competence Level
<p>1. Expectations of the OJTI</p> <p>1.1 Objectives of OJTI and VTS Authority</p> <p>1.1.1 Individual Trainee objectives (certification/career/personal)</p> <p>1.1.2 VTS/Competent Authority objectives</p> <p>1.2 Approaches to OJT Instruction</p> <p>1.2.1 Accommodating trainee diversity</p> <p>1.2.2 Establishing a learning environment within a job-centred, rotational shift working conditions</p>	<p>Level 3 - 2 Hrs</p>
<p>2. Adult Learning Concepts</p> <p>2.1 Overview of Adult Learning Theories</p> <p>2.1.1 Memory and retention</p> <p>2.1.2 Perception of learning events</p> <p>2.1.3 Motivation to learn</p> <p>2.1.4 Learning Styles</p> <p>2.2 Learning models for VTS workplace</p> <p>2.2.1 Conducting Needs Assessments</p> <p>2.2.2 Setting Learning Objectives for VTS trainees</p>	<p>Level 3 - 4 Hrs</p>

<p>3. Instructional Techniques for OJTI</p> <ul style="list-style-type: none"> <li>3.1 Individual and small group supervisory skills for trainers</li> <li>3.2 Individual and small group coaching skills for trainers (one-to-one, one-to-three)</li> <li>3.3 Experiential Learning Theory as it applies to individual adult learners</li> <li>3.4 Designing Learning Events for adults             <ul style="list-style-type: none"> <li>3.4.1 Preparing learning activities and exercises</li> <li>3.4.2 Running learning events in VTS OJT environments</li> <li>3.4.3 Adapting learning events to specific VTS Centres and individual VTS trainees</li> </ul> </li> <li>3.5 Alternative Learning Opportunities within the control of the OJTI             <ul style="list-style-type: none"> <li>3.5.1 Self-directed Learning at VTS Centres</li> <li>3.5.2 Computer Based Training as an emerging resource for VTS training and assessment</li> </ul> </li> </ul>	<p>Level 3 - 4 Hrs</p>
<p>4. Communications</p> <ul style="list-style-type: none"> <li>4.1 Effective Interpersonal Communications between Instructor and trainees             <ul style="list-style-type: none"> <li>4.1.1 Impediments to interpersonal communication</li> <li>4.1.2 Questioning Techniques</li> <li>4.1.3 Listening Techniques</li> <li>4.1.4 Facilitation Techniques when training individuals and small groups</li> </ul> </li> <li>4.2 Providing Feedback to trainees</li> <li>4.3 Non-verbal Communications</li> <li>4.4 Cross-Cultural Communications</li> <li>4.5 Dealing with conflict and difficult Instructor / trainee relationships</li> </ul>	<p>Level 3 - 4 Hrs</p>

<p>5. Evaluations</p> <ul style="list-style-type: none"> <li>5.1 Designing evaluation criteria             <ul style="list-style-type: none"> <li>5.1.1 Qualities of an evaluation</li> <li>5.1.2 Strategies for evaluating demonstrations of Competence</li> </ul> </li> <li>5.2 Assessing             <ul style="list-style-type: none"> <li>5.2.1 Indicators of performance (knowledge, skills and attitudes)</li> <li>5.2.2 Communicating Results to trainees</li> </ul> </li> <li>5.3 Problem Solving during assessment             <ul style="list-style-type: none"> <li>5.3.1 Models for Problem Solving to help trainees achieve success</li> <li>5.3.2 Responding to performance issues and inability by trainees to meet criteria</li> </ul> </li> </ul>	<p>Level 3 - 4 Hrs</p>
<p>6. Practical Application</p> <ul style="list-style-type: none"> <li>6.1 Preparing a topic for delivery using visual aids</li> <li>6.2 Peer assessment and evaluation of delivery</li> <li>6.3 Performance correction</li> </ul>	<p>Level 3 - 1 Hr (per candidate)</p>
<p>7. VTS OJTI Process</p> <ul style="list-style-type: none"> <li>7.1 Planning a complete OJT certification process for assigned trainees</li> <li>7.2 Managing and integrating individual trainee activities within the Centre</li> <li>7.3 Designing and maintaining OJT Task Books See Annex 1</li> <li>7.4 Completion of VTS documentation process for V103/1 and V-103/2 certification</li> </ul>	<p>Level 3 – 2 Hrs</p>
<p>8. VTS Personnel</p> <ul style="list-style-type: none"> <li>8.1 Professional Training related to VTS Operations</li> <li>8.2 Advancement and continuous learning</li> <li>8.3 Certification requirements for VTS Operators and VTS Supervisors</li> </ul>	<p>Level 3 - 1 Hr</p>

## Section 4 - Guidance for Instructors

### Introduction

The courses should be designed to enable VTS Personnel to obtain an endorsement in their Certification Log to permit provision of training to VTS Operators and/or Supervisors in an On-the-Job Training environment.

### Curriculum

The Course Outline is not set out in any particular order and On-the-Job Training Instructors are not obliged to follow the sequence in which they appear but should follow them in the manner that is considered to be the most effective for the trainees. The success of the course will depend, to a large extent, upon detailed co-ordination of the individual subjects into a coherent teaching scheme. It is important that an experienced Instructor acts as course co-ordinator to plan and supervise the implementation of the course.

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

The course co-ordinator should monitor the running of the course. There should be regular discussions with the Instructors involved concerning the progress of trainees and any problems that have become apparent. Modifications of the teaching scheme should be made where necessary to ensure that trainees are attaining the required levels of competence. Extra tuition, as appropriate to the circumstance should be arranged to enable trainees requiring remedial training to achieve competence.

## Section 5 - Evaluation or Assessment

To make monitoring possible regular assessment of trainees must be undertaken. In many cases the assessment can be based on the marks given to trainees' course work and presentations, providing a proper record of it is kept. These assessments are additional to any examination required for the purposes of certification.

Assessments should use the following five levels to indicate the learning level attained by trainees. It is recommended that an average level of three to four should be considered as being satisfactory.

<b>LEVEL</b>	<b>CATEGORY</b>	<b>DESCRIPTION</b>
LEVEL 1	RECEIVING	The trainee's willingness to participate in the learning activity.
LEVEL 2	RESPONDING	The trainee's active participation in the learning activity.
LEVEL 3	SIGNIFICANCE	The worth that the trainee attaches to a particular object, phenomena or behaviour.
LEVEL 4	ORGANISATION	The trainee's ability in bringing together different values, resolving conflicts between them and beginning the building of an internally consistent value system.
LEVEL 5	VALUE COMPLEX	The value system that has been achieved due to contrary, consistent and predictable behaviour for a sufficiently long time for the trainee to have developed a characteristic 'life style'.



## **ANNEX 1**

# **Vessel Traffic Services Operator On-the-Job Training (OJT) Model Task Book**

### **Introduction**

Following completion of an accredited course of training a prospective VTS Operator, on joining an operational VTS Centre, is required to undertake a formal and structured period of On-the-Job Training (OJT) to meet the requirements of Model Course V-103/3. Whilst the Model Course outlines the objectives of this training, its organisation, content and delivery is wholly dependent on the characteristics of the VTS Centre to which the candidate operator is appointed. A training Task Book, designed to reflect the characteristics of the specific VTS, is an essential feature of this training to provide the structured guide needed by the candidate.

### **Purpose of the Model Task Book**

The purpose of the Model Task Book is to assist VTS Centres and their Instructors in the delivery of On-the-Job Training by providing guidance on the content of the Task Book that will need to be drawn up to support OJT of newly trained candidates for VTS Operator. The Task Book should be designed to enhance and complement existing training material with the objective of meeting the requirements of IALA Recommendation V-103.

The Model Task Book is a 'generic' guide to format and content, it cannot, and indeed should not, be used for training. It is intended for use only as a template for the production of an OJT Task Book devised and written around the needs of a specific VTS Centre at which the candidate trainees will undergo their OJT.

The Task Book should have five broad objectives:

- To indicate the detailed syllabus of knowledge and skills that a candidate trainee needs to acquire and demonstrate proficiency,
- To encourage the candidate trainee to acquire the requisite skills and knowledge by his own research, practice and study,
- To provide a record of skills development,
- To provide a clear assessment of progress, and
- To be a record of formal testing leading to the successful examination by a qualifying board.

## **Development of a VTS Centre specific OJT Task Book**

The development of a OJT Task Book for a VTS Centre can only be undertaken by the VTS authority concerned and with due regard to the guidance in V-103 and the training that a candidate will have recently completed to meet the competence levels of V-103/1. The following steps are recommended:

- To substitute each Part of the Model Task Book with the actual data, procedures, conditions, plans and instructions applicable at the specific VTS Centre. Express each as a task to be undertaken by the candidate trainee either independently, under supervision, or as part of role play or a simulated exercise (e.g. major oil spill);
- Determine whether the syllabus will meet the requirements of the VTS Centre for a qualified VTS Operator;
- Against each topic of the Task Book allocate a means by which each task will be undertaken, giving priority where possible to the practical development of personal skills and knowledge, either by:
  - o Witness practical demonstration;, or
  - o Acquisition of personal skills; or
  - o Exercise under supervision; or
  - o Study and written work.
- Compile against each task topic a formal test. The style and format should, where possible, be of a practical nature;
- Determine the need for periodic assessment and testing, making provision for recording results formally in the Task Book. Similarly set out the arrangements for the conduct of the qualification board. Part 14, at Annex A of this guide provides further information.

## **Format of the Task Book**

Suggested topics for inclusion in the TB are given at Parts 1 – 14 at Appendix A.

An illustrative example of a method of layout of the pages of the Task Book is at Appendix B.

## **APPENDIX A - EXAMPLE OF THE RECOMMENDED CONTENTS OF THE OJT TASK BOOK**

### **Part 1 – OJT Trainee Details**

Name

Date of Birth

Nationality

Date of joining the VTS authority

Previous Professional Qualifications

Relevant Professional experience

Dates of VTS Training Courses

VTS Operator Certificate Number

Issuing Authority and Date awarded

VTS Certification Log Book number

Trainee's Signature to confirm the above items

### **Part 2 - Trainee's VTS Area**

Limits or boundaries of VTS area or region

VTS sectors, restricted areas

Adjacent VTS areas and authorities

Traffic reporting and Routeing Schemes

Fairways, seaways and anchorages

Aids to Navigation

Reference points

Environmentally sensitive areas

Port data

Locally used abbreviations and symbols

### **Part 3 - International, National and local legislation**

IMO Conventions and Resolutions

National legal basis for VTS

Local legislation

Local Byelaws/ Harbour Revision Orders

Special Rules

Local/Regional Traffic regulations or Port orders

Codes of Practice/Safety Management Systems, obligations of VTS Personnel

#### **Part 4 - Duties and Responsibilities of VTS Staff**

Job descriptions and responsibilities

Terms of reference

Chain of responsibility and reporting in VTS Centre

Standing orders/Standard Operating Procedures (SOPS)

Relationship with allied services including search and rescue services

Relationship with adjacent VTS authorities

#### **Part 5 – Watch Management**

Organisation of the watch

Logbook and record keeping

Sailing and passage plans

Identification of, and co-operation with allied services

Factors determining the suspension of shipping operations

Provide shipping information

Navigation information (warnings etc)

Collate shipping information

Health and safety considerations

Monitor effective performance of VTS equipment

#### **Part 6 – Marine Traffic Management**

Typical density and composition of local and adjacent traffic patterns

Development and maintenance of the local VTS traffic image

Water-space management – typical criteria

Managing traffic situations, issue instructions

Types of cargo, implications of Dangerous Goods

## **Part 7 – Communications and Datalinks**

Radio organisation, frequencies, channel allocation

GMDSS, including DSC

Equipment

- frequency
- aerials
- siting
- range
- capabilities and limitations

Radio procedures

- Use of correct voice procedure protocols
- Use of SMCP, including message markers
- Emergency and distress procedures

Communications with allied services.

## **Part 8 - Sensors - Radars, DF Equipment, Electro-Optic Devices, AIS and CCTV**

All Equipment

- normal operation limitations and expectations
- procedures
- defects – troubleshooting - use of manuals
- sub-standard performance

Radar

- configuration
- coverage
- accuracy
- remote access
- operator controls
- setting up for optimum performance
- secondary/emergency systems
- detecting defects – actions to be taken
- sources of interference
- inter-switching
- use of 'bite'

Tracking System

- information management
- tracking management
- use of alarms

AIS

information management  
use of

DF Equipment

information management  
use of

E/O Devices

information management  
use of

CCTV

use of

Portable VTS Systems

Capabilities and limitations

**Part 9 – Emergency Procedures**

Contingency Plans

1. External SAR  
Counter Pollution  
Fire  
Counter Terrorism  
National  
Other local plans that involve VTS resources  
Extreme weather situations
2. Internal Evacuation of VTS Centre, fire, flood, earthquake  
Power failure, defects  
Transfer to alternative VTS

Co-ordination. Powers and limits of discretion

Reporting

Documentation of Contingency Plans

Use of Checklists to initiate Contingency Plans

Ports of Refuge

Towing Protocol

Communications

Role of Allied/Emergency Services during Emergency Procedures

## **Part 10 – Reports and Records**

Mandatory reporting requirements, formats, recipients

- Contraventions of COLREGS and other regulations
- Rogue Vessels

Archiving requirements

Safeguarding records

Automatic recording facilities

Report writing, formats and composition

## **Part 11 – Liaison with Public and Media**

Security Procedures – Access to VTS Centre and facilities

Nomination of PR person/persons

Media Training - policy

Briefings to the media

Data release, Data protection

Visitors – policy

Communication security awareness, avoidance of eavesdropping

## **Part 12 - Allied Services**

Familiarisation

- Tripping

- Tugs

- Pilots

- Ships – Passage Plan

- CG /SAR/MRCC

- Fire Services

- Harbour Facilities

- Pollution Control Units

- Customs and excise

- Adjacent VTS Centres

Capability, limitations and availability of resources

### **Part -13 Hydrography and Meteorology**

Tides, Tidal Streams, Currents and Tide Surges

Tide gauges, prediction of clearances

Preparation and issuing of local weather reports

Local climatic conditions

Morphology and sand waves

Limiting weather conditions

Propensity for local fog formation

Issuing local Notice to Mariners and Navigational Warnings

### **Part 14 - Trainee Assessment and Tests**

Continuous performance assessment

Method of testing

Written

Oral

Practical

Test syllabus, progressive testing

Evaluators

OJT Instructor

VTS Operator

VTS Supervisor

Review

Skills fulfilled

Skills not fulfilled – repeat OJT tasks

Final Board arranged by the VTS authority. Specify the composition and format.

<p><b>VTS AUTHORITY</b></p>	<p><b>VTS OJT TASK BOOK</b> [SAMPLE]</p>	<p>APPENDIX B Version / Date</p>
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SUBJECT	T	DATE	I	DATE	INSTRUCTOR COMMENTS
<b>2. VTS AREA</b>					
Traffic Routing Regulations	√	21 May 01	TH	30 May 01	
Fairways, Channels, Anchorages and associated navigational constraints	√	26 May 01	TH	30 May 01	
Aids to Navigation	√	28 May 01	TH	30 May 01	Needs to update before keeping a watch
<b>8. PRACTICAL EXPERIENCE</b>					
Pilot Tripping (Day)	√	23 May 01	MP	24 May 01	1 outbound and 2 inbound trips carried out with different Pilots
Pilot Tripping (Night)					
Tug Tripping					
Pilot Launch Tripping	√	25 May 01	ML	25 May 01	Used before/after Pilot tripping
Ship Berthing/Unberthing					

T - Task completed by Trainee  
I - Competence check by OJT Instructor

VTS AUTHORITY	<b>VTS OJT TASK BOOK</b> [SAMPLE]		APPENDIX B Version / Date
<b>SUBJECT</b>	<b>LEARNING OBJECTIVES</b>		
<b>2. VTS AREA</b>			
Traffic Routing Regulations	Demonstrate a thorough knowledge of the local and relevant regional regulations and procedures, together with the skills and techniques involved in organising vessel traffic within the VTS area.		
Fairways, Channels, Anchorages	Demonstrate a thorough knowledge of all Fairways, Channels and Anchorages within the VTS area, together with associated navigational constraints.		
Aids to Navigation	Demonstrate a thorough knowledge of all Aids to Navigation within the VTS area.		
<b>8. PRACTICAL EXPERIENCE</b>			
Pilot Tripping (Day)	Undertake at least two inbound and two outbound trips with Class 1 Pilots and be able to demonstrate an awareness of Pilot boarding arrangements, Pilot/ Master information exchange, Sailing Plan, vessel type, manoeuvring characteristics and associated navigational problems.		
Pilot Tripping (Night)	As above		
Tug Tripping	Demonstrate an awareness of tug facilities, berthing/unberthing and emergency procedures.		
Pilot Launch Tripping	Demonstrate an awareness of Launch handling and co-ordination of movements when on pilotage duty under various weather conditions.		
Ship Berthing/Unberthing	Demonstrate an awareness of Berthing/Unberthing procedures and difficulties experienced at container and oil berths.		