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MODEL COURSE 1.04

液化气船货物操作基本培训

BASIC TRAINING FOR LIQUEFIED GAS TANKER CARGO OPERATIONS（2014）

中华人民共和国海事局 译

中英对照

大连海事大学出版社
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国际海事组织海员行为示范
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前　言

国际海事组织(IMO)自成立伊始就认识到人力资源对海运事业发展的重要性,并通过优先考虑在国家和地区层面上提供或改善海事培训设备来帮助发展中国家增强其海事培训能力,同时,为满足发展中国家培养主管机关、港口、航运公司和海事培训机构高级人才的需求,IMO于1983年在瑞典的马尔默市成立了世界海事大学。

在1978年《海员培训、发证和值班标准国际公约(STCW)》通过之后,一些IMO成员国政府即建议IMO开发示范课程以配合公约的履行及加快航海技术新发展的信息和技术的传播。IMO的培训顾问及专家在参观访问发展中国家的培训机构之后认为示范课程的建立将有助于教师提高现有课程的质量,也有助于加强履行有关IMO大会公约及决议案要求。

此外,IMO还意识到一系列海事培训领域的短期综合示范课程将有助于补充各缔约国海运院校的教学,也有助于海运主管机关、港口及航运公司的主管人员和技术专家进一步提高他们在某些专业领域的知识和技能。因此,在挪威政府的大力支持下,IMO开发了一系列示范课程来满足这些普遍认可的需求,同时考虑到专业技术的发展及IMO修正案要求,通过定期修订程序对各示范课程进行更新。

任何培训机构都可以使用这些示范课程,并且当具备必要的财政经费时,IMO将协助发展中国家实施任何示范课程。

关水康司

秘书长

Foreword

Since its inception the International Maritime Organization (IMO) has recognized the importance of human resources to the development of the maritime industry and has given the highest priority to assisting developing countries in enhancing their maritime training capabilities through the provision or improvement of maritime training facilities at national and regional levels. IMO has also responded to the needs of developing countries for postgraduate training for senior personnel in administrations, ports, shipping companies and maritime training institutes by establishing the World Maritime University in Malmö, Sweden, in 1983.

Following the adoption of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (STCW), a number of IMO Member Governments had suggested that IMO should develop model training courses to assist in the implementation of the Convention and in achieving a more rapid transfer of information and skills regarding new developments in maritime technology. IMO training advisers and consultants also subsequently determined from their visits to training establishments in developing countries that the provision of model courses could help instructors improve the quality of their existing courses and enhance their implementation of the associated Conference and IMO Assembly resolutions.

In addition, it was appreciated that a comprehensive set of short model courses in various fields of maritime training would supplement the instruction provided by maritime academies and allow administrators and technical specialists already employed in maritime administrations, ports and shipping companies to improve their knowledge and skills in certain specialized fields. With the generous assistance of the Government of Norway, IMO developed model courses in response to these generally identified needs and now keeps them updated through a regular revision process taking into account any amendments to the requirements prescribed in IMO instruments and any technological developments in the field.

These model courses may be used by any training institution and, when the requisite financing is available, the Organization is prepared to assist developing countries in implementing any course.

K. SEKIMIZU

Secretary-General

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1.04 MODEL COURSE

Introduction

■ Purpose of the Model Courses

The purpose of the IMO model courses is to assist maritime training institutes and their teaching staff in organizing and introducing new training courses, or in enhancing, updating or supplementing existing training material where the quality and effectiveness of the training courses may thereby be improved.

The purpose is also to enhance the capabilities of shipboard personnel who sail on specialized carriers such as liquefied gas tankers. It is not the intention of the course to compartmentalize the trainee's way of thinking in terms of tanker operation. The idea is to make him/her aware of the specialization of operations specific to a liquefied gas tanker and sensitize him/her towards the responsibilities that s/he will face on such a vessel.

It is not the intention of the model course programme to present instructors with a rigid "teaching package" which they are expected to "follow blindly". Nor is it the intention to substitute audiovisual or "programmed" material for the instructor's presence. Rather, this document should be used as a guide with the course duration given as indicative of the expected time required to cover the required outcomes. The parties may modify this course to suit their respective training schemes.

As in all training endeavours, the knowledge, skills and dedication of the instructors are the key components in the transfer of knowledge and skills to those being trained through IMO model course material. For those following planned training schemes approved by the administration, it is intended that this training may form an integral part of the overall training plan and be complementary to other studies. The training may be undertaken in progressive stages; for such candidates, it is not appropriate to specify the duration of the learning, provided achievement of the specified learning outcomes is properly assessed and recorded.

Because educational systems and the cultural backgrounds of trainees in maritime subjects vary considerably from country to country, the model course material has been designed to identify the basic entry requirements and trainee target group for each course in universally applicable terms, and to specify clearly the technical content and levels of knowledge and skills necessary to meet the technical intent of IMO conventions and related recommendations.

This basic course is for all personnel serving on board liquefied gas tankers in the support and operational level for the cargo handling in port and care in transit. By successfully completing this course, the aforementioned shipboard personnel will fulfil the mandatory minimum training requirements of regulation V/1－2, paragraph 2 of STCW 1978, as amended. The coverage of the model course is wide in scope and includes liquefied gas tanker safety, fire safety measures and fire-fighting systems, prevention and control of pollution, safe operational practice and obligations under applicable laws and regulations.

In order to keep the training programme up to date in future, it is essential that users provide feedback. New information will provide better training in safety at sea and protection of the marine environment. Information, comments and suggestions should be sent to the Head of the STCW and Human Element Section at IMO, London.

介绍

■ 示范课程的目的

IMO示范课程的目的是帮助海事培训机构及其教员组织和引进新的培训课程，提高、更新或补充现有的培训资料，以提高培训课程的质量和效果。

本课程的另一个目的就是提升在特种船舶如液化气船上工作人员的能力。其意图不是割裂受训人员有关液化气船操作的思维方式，而是使他/她具有针对液化气船操作规范的意识及其在该船上所面临的责任意识。

示范课程计划的目的既不是向教员提供一个让其“盲目遵循”的、僵化的“教学包”，也不是用音像资料或“程序化”的资料来取代教员。此外，本示范课程是作为培训过程的指导性文件，表明了为达到要求的培训结果而需要的预计时间。各缔约国可根据各自的实际情况对本示范课程加以修改以满足各自的培训要求。

因为在全部培训过程中，通过IMO示范课程资料向学员传授知识和技能时，教员的知识、技能和奉献是关键的因素。对于那些已由主管机关批准的培训计划，本示范课程可以作为该整体培训计划的一部分，也可以作为其他科目培训的补充。培训可以分阶段实施，对于那些特定的学习成果已得到正确地评估和记录的学员，再指定其持续学习的时间是不合适的。

因为各国的海运学科受培训人员所处教育体制和所具有的文化基础差异较大。因此，示范课程资料用普遍适用的术语明确了基本入学条件和课程的培训对象，同时明确了为满足IMO公约及相关建议的技术要求所必需的技术内容、知识水平和技能。

该基本课程是为液化气船上在港装卸货和运输途中照料货物所有支持级和操作级人员而设计的。通过成功完成本课程的学习，使上述船上人员将达到所修订的《STCW1978》公约的规则V/1-2第2段强制性的最低要求。示范课程覆盖的范围很广，包括液化气船安全、消防安全措施和消防系统、污染防止及控制、现行法律法规下的安全操作实践及义务等所有必需的培训。

为了保持培训课程在将来能不断地更新，必须由用户提供相关的反馈信息。新的信息能够完善有关海上安全和海洋环境保护的知识培训。新的信息、评论和建议应提交给伦敦的IMO人力资源和海事培训总部。

■ Use of the Model Course

The instructor should review the course plan and detailed syllabus, taking into account the information provided under the entry standards specified in the course framework. The actual level of knowledge and skills and the prior technical education of the trainees should be kept in mind during the review, and any areas within the detailed syllabus which may cause difficulties because of differences between the actual trainee entry level and that assumed by the course designers should be identified. To compensate for such differences, the instructor is expected to delete from the course, or to reduce the emphasis on, items dealing with knowledge or skills already attained by the trainees. S/he should also identify any academic knowledge, skills or technical training which they may not have acquired.

The instructor, using his/her professional judgement, can analyse the detailed syllabus and the academic knowledge required to allow training in the technical area to proceed. The instructor can then design the appropriate pre-entry course or alternatively insert the elements of academic knowledge required to support the technical training elements concerned at appropriate points within the course.

Within the course plan the course designers have indicated assessment of the time which should be allotted to each area of learning. However, it must be appreciated that these allocations are arbitrary and assume that the trainees have fully met all entry requirements of the course. The instructor should therefore review these assessments and may need to reallocate the time required to achieve each specific learning objective or training outcome.

■ Aims

This course provides training to candidates to be duly qualified under section A-V/1-2 of the STCW Code with specific duties and responsibilities related to cargo or cargo equipment on liquefied gas tankers. It comprises a basic training programme appropriate to their duties, including basic training for liquefied gas tanker safety, fire safety measures, pollution prevention, operational practice and obligations under applicable law and regulations. The course covers the competence requirements as given in the table A-V/1-2-1 of the STCW Code adopted by the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, as amended in 2010.

Any of this training may be given on board or ashore. It could be either by practical instruction on board or in a suitable shore-based installation.

During the course, there will be

- familiarization with the equipment and instrumentation used for cargo handling on a liquefied gas tanker.
- greater awareness of the need of proper planning, the use of checklists and the time scales involved in the various cargo handling operations.
- enhanced awareness to apply proper and safe procedures at all times when carrying out the various operations on board a liquefied gas tanker.

■ 示范课程的使用

教员应复查课程计划和详细大纲，注意课程结构中所明确的入学标准中的信息。在复查时应该对学员实际的知识、技能和所受技术教育的水平做到心中有数，同时应找出在学员的实际入学水平与课程设计者所设想的水平不一致时，识别详细教学大纲中会因此而造成困难的任何内容。为了补偿这些差别，要求教员将与学员已获得的知识和技能相关的科目从课程中删除或减少对相关科目的强调。教员还应找出学员没有获得的理论知识、技能或技术培训。

通过使用其专业判断，对详细教学大纲和进行技术培训所需理论知识的分析，教员应能够设计一个适当的准入课程，或代之以在技术课程内的适当位置加入所需理论知识要素以支持相关的技术培训要素。

在课程计划内，课程设计者标明了分配到每个学习范围的预计时间，但应该清楚的是，这些分配是主观的，并且假设学员完全满足了所有的课程入学条件。因此教员应该审查这些预估时间，可能需要重新分配所用时间，以达到每个规定的学习目标或培训成果。

■ 目的

本课程为学员提供培训，使其达到符合STCW规则A-V/1-2中有关液化气船货物或货物设备的具体职责和责任要求的相关资质。该课程是由一个与他们职责相适应的基本培训方案所构成的，它包括有关液化气船安全、消防安全措施、防污染以及现行法律法规所要求的操作惯例和义务方面的基本培训。该课程涵盖了《海员培训、发证和值班标准国际公约》2010修正案所采纳的STCW规则A-V/1-2-1的表中所提出的相关能力要求。

该项培训的任何环节可以采用船上实践教学方式进行或在岸上以一套合适的岸基设备进行。

通过本课程的学习，能够：

— 精通液化气船货物操作仪器和设备。

— 增强有关各种货物操作的计划制订、安全检查表的使用及时间安排的意识。

— 当液化气体船上进行各种操作时，任何时间都要加强应用正确和安全程序的意识。

- improvement in the ability/increased ability to follow procedures and instructions to promote safety and protect the marine environment.

- increased ability to assist and coordinate actions during emergencies.

■ Lesson Plans

The detailed syllabus contains specific references to the textbooks or teaching material proposed to be used in the course. Where no adjustment has been found necessary in the acquisition of knowledge and proficiency of the detailed syllabus, the lesson plans may simply consist of the detailed syllabus with keywords or other reminders added to assist the instructor in making his/her presentation of the material.

■ Presentation

The presentation of concepts and methodologies must be repeated in various ways by assessing and evaluating the trainee's performance and achievements until the instructor is satisfied that the trainee has attained the required proficiency under each specific learning objective or training objective. The syllabus is laid out in the form of acquiring knowledge, understanding and proficiency format and each objective specifies that the trainee must know or be able to do as the learning or training outcome. Holistically, these objectives aim to meet the knowledge, understanding and proficiency specified in the appropriate tables of the STCW Code.

■ Implementation

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

- properly qualified instructors.
- support staff.
- rooms and other spaces.
- equipment.
- textbooks, technical papers.
- other reference materia.

Thorough preparation on part of the instructor is the key to successful implementation of the course. IMO has produced a booklet entitled "Guidance on the implementation of IMO model courses", which deals with this aspect in greater detail and which is appended to this model course.

In certain cases, the requirements for some or all of the training in a subject are covered by another IMO model course. In these cases, the specific part of the STCW Code which applies is given and the user is referred to the other model course.

— 提升/增强其遵守操作程序和操作指南的能力，以促进安全和海洋环境保护。

— 提升紧急情况下的协助和协调行动的能力。

■ 教案

在教学大纲细则中包含了具体的针对所用课本及教材的参考资料。如果在知识和能力的获取上发现无须对教学大纲进行调整，则教案可以简单地沿用该教学大纲细则，并在该教学大纲中通过加注关键词或提示符以协助教员对本材料的讲解。

■ 学员展示

必须通过对学员的表现和完成效果进行评估并以各种方式对概念和方法进行反复传授，直到教员对学员已达到每一具体学习目标和培养目标所要求的水平感到满意为止。本大纲在知识获取的形式、知识理解和熟练的格式上进行了规定，且每项目标规定学员必须知道或能够按照学习或培训效果的要求去做。整体上，这些目标旨在满足STCW规则的相应表格中所规定的知识、理解和熟练上的要求。

■ 实施

为了本课程顺利而有效地实施，必须重点考虑以下各项的可用性及其运用：

— 有资质的教员。
— 后勤保障人员。
— 教室及其他场所。
— 仪器设备。
— 教材、技术文件。
— 其他参考材料。

教员充分的准备工作是本课程成功实施的关键。国际海事组织(IMO)出台了一本与示范课程相配套的且在实施方面有更详细说明的《IMO示范课程实施指南》手册。

在某些情况下，对某一科目的部分或全部的培训要求可能被IMO其他的示范课程所覆盖，在此情况下，会给出其适用的STCW规则的具体章节，并要求使用者参照其他示范课程。

Part A: Course Framework

■ Scope

This course provides training for officers and ratings. It comprises a basic training programme appropriate to their duties for liquefied gas tanker safety, fire safety measures and cargo systems, pollution prevention, safe operational practice and obligations under applicable laws and regulations. The course takes full account of section A-V/1-2 of the STCW Code adopted by the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers as amended, including the Manila amendments 2010.

This training may be given on board or ashore. It can be either by practical training on board or wherever possible on simulators in training institutions or in a suitable shore-based installation.

■ Objective

The objective of this course is to meet the training requirements of regulation V/I-I, paragraph 2.2 of the International Convention of Training, Certification and Watchkeeping for Seafarers as amended.

■ Entry Standards

This course is principally intended for candidates for certification for basic training for liquefied gas tanker cargo operations as specified in section A-V/1-2, paragraph 1 of the STCW Code as amended.

■ Course certificate

All who are qualified in basic training for liquefied gas tanker cargo operations programme in accordance with regulation V/1-2, paragraphs 1 or 2 shall be issued with a course completion certificate.

■ Course Intake Limitations

It is recommended that the number of trainees should not exceed 20 and practical training should be undertaken in small groups of not more than eight.

■ Staff Requirements

The instructor shall have appropriate training in instructional techniques and training methods (STCW Code A-1/6, paragraph 7). It is recommended that all training and instruction is given by qualified personnel experienced in the handling and characteristics of liquefied gas cargoes and the safety procedures involved.Staff may be recruited among deck and engineer officers of liquefied gas tankers, and/or fleet superintendents as appropriate.

A部分:课程框架

■ 范围

本课程是面向高级船员及普通船员的培训,它是由一项与其船员职责相适应的有关液化气体船舶安全、消防安全措施及货物系统、防污染、安全实操以及相关法律法规所赋予义务基本培训计划组成,并充分考虑了采纳现行《海员培训、发证和值班标准国际公约》STCW规则A-V/1-2节的相关规定,包括2010年马尼拉修正案。

本培训可以在船上或在岸上进行。既可以通过船上实训的方式进行,也可以在培训机构的模拟器上进行或在合适的岸基设备上进行。

■ 目标

本课程的目的是为了满足现行《海员培训、发证和值班标准国际公约》规则A-V/1-1中2.2款所规定的培训要求。

■ 入学标准

本课程主要目的是让学员获取现行STCW规则V/1-2节1款中规定的液化气船货物操作基本培训证书。

■ 课程证书

根据规则V/1-2节1款或2款规定,对所有在液化气船货物操作计划基本培训中合格的船员应签发课程结业证书。

■ 课程人数限制

建议学员数量不应超过20人,且实操培训应以不超过8人的小组进行。

■ 教员要求

教员应具备有相应的授课技巧和培训方法(STCW规则A-1/6节第7款)。建议所有的培训和教学由具有液化气货物操作经验并熟知相关液化气货物性质及其安全操作程序的合格人员来进行。可招募在液化气体船上的驾驶员和轮机员、船队主管和合适的货运部门、货物检验部门或实验室工作人员作为教员。