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MODEL
COURSE 3.18

货物运输单元内货的 安全积载——培训用书

SAFE PACKING OF CARGO TRANSPORT UNITS (CTUs) (2001) Course

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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《货物运输单元内货的安全积载——培训用书》

翻译：王建平 李龙 吕弘

审校：成春祥 沈江

Foreword

Since its inception the International Maritime Organization 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 administration, ports, shipping companies and maritime training institutes by establishing the World Maritime University in Malmö, Sweden, in 1983.

Following the earlier adoption of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, 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 effectiveness in meeting the requirements of the Convention and implementing 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. IMO has therefore developed the current series of model courses in response to these generally identified needs and with the generous assistance of Norway.

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

W. A. O'NEIL

Secretary-General

前 言

国际海事组织(IMO)自成立伊始就认识到人力资源在海运业发展中的重要性,并最优先考虑通过在国家和地区层面提供或改善培训设备来帮助发展中国家增强其海事培训能力。为应对发展中国家主管机关、港口、航运公司及海事培训机构高层人员对研究生培训的需求,IMO于1983年在瑞典的马尔默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》通过的初期,一些IMO成员国政府就建议IMO应制定示范培训课程,以帮助对该公约的实施以及对航海技术新发展方面信息和技能的迅速转化。IMO培训顾问和咨询专家在对发展中国家的培训机构进行访问后确定,提供示范课程有助于教员改进现有课程的质量,提高其满足公约要求及实施相关会议和IMO大会决议的有效性。

此外,令人欣慰的是,海事培训诸多领域中一套综合性简短课程将对海事院校提供的授课加以补充,并使得已在海事行政机关、港口和航运公司工作的行政管理和技术专家可以提高其在某些专业领域中的知识和技能。为此,IMO在挪威的慷慨帮助下编写了当前的系列示范课程,以应对那些普遍发现的需求。

任何培训机构都可以使用这些示范课程,在筹措到必需的资金时本组织也准备帮助发展中国家实施任何课程。

W.A.奥尼尔

秘书长

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3.18 MODEL COURSE

Introduction

■ Purpose of IMO 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.

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 audio-visual or “programmed” material for the instructor’s presence. As in all training endeavours, the knowledge, skills and dedication of the instructor are the key components in the transfer of knowledge and skills to those being trained through IMO model course material.

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 the trainee target group for each course in universally applicable terms, and to specify clearly the technical content and levels of knowledge and skill necessary to meet the technical intent of IMO conventions and related recommendations.

■ Use of the model course

To use this 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 prior technical education of the trainees should be kept in mind during this 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 designer should be identified. To compensate for such differences, the instructor is expected to delete from the course, or reduce the emphasis on, items dealing with knowledge or skills already attained by the trainees. He should also identify any academic knowledge, skills or technical training which they may not have acquired. By analysing the detailed syllabus and the academic knowledge required to allow training in the technical area to proceed, the instructor can design an 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 technical course.

Adjustment of the course objectives, scope and content may also be necessary if in your maritime industry the trainees completing the course are to undertake duties which differ from the course objectives specified in the model course.

Within the course plan the course designers have indicated their assessment of the time which should be allotted to each learning area. However, it must be appreciated that these allocations are arbitrary and assume that the trainees have fully met all the 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.

介绍

■ 示范课程的目的

IMO 示范课程的目的是协助海事培训机构及其教学人员组织和引入新的培训课程，提高、更新或补充现有的培训材料，以此改进培训课程的质量和培训效果。

本示范课程计划的意图并不是向教员呈交一个他们期望“盲目遵循”的“教学包”，其意图也不是用视听或“编排的”材料来代替教员的在场。在所有的培训努力中，知识、技能和教员的奉献是向IMO 示范课程材料的受训者传授知识和技能的关键构成要素。

由于不同国家海事学科的教育体系、文化背景不同，示范教材已经就每一科目确定了普遍适用的入学要求及学员目标群体，并清晰详细地列出了其技术内容、知识水平和必要技能以满足国际海事组织公约及相关建议的要求。

■ 示范课程的使用

为使用示范课程，教员应当审视课程计划和教学大纲细则，考虑课程框架中规定的入学标准所提供的信息。在审视过程中，应当牢记学员知识和技能的实际水准以及从前的技术教育水平，并应当识别出在教学大纲细则范围内由于学员实际入门水准与课程设计者假定的水准之间的差异，可能引起困难的任何部分。为弥补这些差异，希望教员将涉及学员已经掌握的知识和技能的项目从课程中删去或不做重视。此外，教员应当识别出学员可能还没有掌握的任何学术知识、技能或技术训练。通过分析教学大纲细则以及技术领域培训所需的学术知识，教员可以设计出适当的预科课程，或者在技术课程中的适当处加入技术课程需要的学术知识。

如果完成该课程的学员在其所处的航海事业中要从事有别于本示范课程规定的课程目标的职责，则可能有必要调整课程的目标、范围和内容。

在课程计划中，课程设计者已经表明了其估计的、应分配给每一个学习部分的时间。但是，必须清楚的是，这些分配是主观的，并假设了学员完全符合本课程的入门要求。因此，教员应当对这些估计进行重新审视，而且可能需要重新分配时间，以符合每一个特定培训目标的需要。

■ Lesson plan

Having adjusted the course content to suit the trainee intake and any revision of the course objectives, the instructor should draw up lesson plans based on the detailed syllabus. The detailed syllabus contains specific references to the textbooks or teaching material proposed to be used for the course. Where no adjustment has been found necessary in the teaching activities in 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 presentation of the material.

■ Presentation

The presentation of concepts and methodologies must be repeated in various ways until the instructor is satisfied that the trainees have attained each specific learning objective. The syllabus is laid out in teaching activity format with three levels of learning objectives.

■ Evaluation or assessment of trainee's progress

Guidance on evaluation or assessment of trainees is given in Part D (Instructor Manual) of the course.

■ 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
- textbooks and technical papers
- other reference material
- equipment for practical exercises
- packed CTUs for inspection

Thorough preparation is the key to successful implementation of the course. IMO has produced “Guidance on the implementation of model courses”, which deals with this aspect in greater detail and is included as an attachment to this course.

■ 教案

教员调整了课程内容、修订了教学目标之后，应基于大纲细则制订教案。大纲细则中规定了应使用的教科书和教学材料。若教员认为没有必要对大纲细则中的学习目标进行调整，则教案就是在大纲细则中加上注释和说明，以方便其对教材的讲解。

■ 学员展示

概念和方法必须以各种方式反复讲解，直至教员确认学员达到了学习目标。大纲按教学活动的模式编排，将学习目标分为三个级别。

■ 对学员学习进度的评估

学员学习评估指南列在本课程D部分（教员手册）中。

■ 实施

为使教学顺利有效进行，必须充分注意下列人员与设备：

- 称职的教员
- 教辅人员
- 教室和其他场所
- 教科书及有关技术文件
- 其他参考资料
- 实际操作用的设备
- 已填装的货物运输单元（CTU）

完善的备课是课程成功实施的关键。IMO组织出版了《IMO示范课程实施指南》，更加详细地解释了教学要求。该手册附后。

Part A: Course Framework

■ Scope

This course provides basic training in the safe packing and securing of cargoes in cargo transport units (CTUs).

While the use of freight containers, swap-bodies, vehicles or other cargo transport units substantially reduces the physical hazards to which cargoes are exposed, improper or careless packing of cargoes into/onto such units, or lack of proper blocking, bracing and securing, may be the cause of personnel injuries when they are handled or transported. In addition, serious and costly damages may occur to the cargo or to the equipment. The person who packs and secures cargo into/onto a cargo transport unit (CTU) may be the last person to look inside the unit until it is opened by the consignee at its final destination.

Consequently, a great many people in the transport chain will rely on the skills of such persons, such as:

- road vehicle drivers and other highway users when the unit is transported on roads
- rail workers, and others, when the unit is transported by rail
- crew members of inland waterway vessels when the unit is transported on inland waterways
- handling staff at inland terminals when the unit is transferred from one mode of transport to another
- dock workers when the unit is loaded or discharged
- crew members of the ship which may be taking the unit through its most severe conditions during the transport operation
- those who unpack the unit

All persons, such as the above and passengers on board ships, may be at risk from a poorly packed cargo transport unit, particularly one which is carrying dangerous goods.

This course in the safe packing of CTUs is essential for those packing and securing the cargo and those whose task it is to inspect cargo securing and to train people to pack such units. Training is vital if safety standards are to be maintained.

Target groups for such training are seldom the people on board ships, the traditional IMO target groups. Instead, training in the safe packing of CTUs is directed towards the following groups ashore who are preparing the CTUs for transport:

- packers at industries and inland terminals;
- stevedores;
- lorry drivers;
- railway workers;
- marine surveyors;
- forwarders;
- authorities inspecting cargo packing and securing;
- other persons working in the transport chain involved in packing of CTUs; and
- management at export and transport companies.

A 部分:课程框架

■ 范围

本课程提供CTU内货物的安全填装与系固的基本培训。

虽然集装箱、货物换装体、车辆或其他CTU的使用大大降低了货物因裸露而受到物理损坏的危险，但向单元内/上装载货物操作不当或不小心、货物在单元内支撑、绑扎和系固不充分，可能导致在搬运或运输时人员受伤。而且，这种情况下还可能导致货物或设备受到损伤。向单元内装载货物之人很可能是其在目的港被收货人打开之前查看其内部状况的最后一人。

因此，运输链中的很多人都会依靠这些人的装载技术，如：

- 当CTU在公路上运输时，车辆司机和高速公路的其他用户
- 当CTU在铁路上运输时，铁路工人和其他人员
- 当CTU在内陆水道上运输时，内陆水道船舶的船员
- 当CTU在内陆中转站从一种运输方式转至另一种运输方式时，换装操作人员
- 当CTU在码头进行装卸时，装卸工人
- 在运输过程中，在恶劣条件下接触CTU的船员
- 打开CTU的工作人员

所有人员，包括上述列举的人员和船上旅客，都会因CTU内货物装载不当而受到威胁，特别是其内装有危险货物时更是如此。

本课程即CTU内货物的安全装载，对装载与系固货物的人员、检查系固方案的人员、培训人员以及从事此种装载作业的人员都很重要。若要保证一定的安全标准，必须对有关人员进行培训。

参加这种培训的学员组别中船员很少，即IMO的传统组别人员很少。参加这一安全装载培训的人员大多为岸上人员，即从事CTU运输准备的下列人员：

- 工厂和内陆转运站的包装人员；
- 装卸工人；
- 货车司机；
- 铁路工人；
- 海事验船师；
- 货运代理人；
- 检查货物装载与系固的主管当局人员；
- 运输链中与CTU填装有关的其他人员；及
- 出口和运输企业的管理人员。

■ Objectives

Those who successfully complete this course will thereby be aware of:

- the importance of the safe transport and packing of cargoes, commensurate with their duties
- the consequences of badly packed and secured cargoes in CTUs
- the legal requirements
- the magnitude of forces which may act on cargoes during road, rail and sea transport
- the basic principles of packing and securing of cargoes in CTUs

They will further have acquired knowledge about details concerning specific requirements for the transport and packing of cargoes in CTUs, which are applicable to the functions they perform.

■ Entry standards

The course is open to those who have:

- experience of cargo handling and transport operations
- knowledge about the use of CTUs

■ Course certificate

On successful completion of the course, a certificate or diploma should be issued, attesting that the holder has successfully completed the course on basic packing and securing of cargoes in cargo transport units (CTUs).

■ Course intake limitations

The number of trainees should normally not exceed sixteen.

■ Staff requirements

The instructor should have adequate experience in packing and securing of cargoes in CTUs.

■ Teaching facilities and equipment

Ordinary classroom facilities with an overhead projector, blackboard or whiteboard are adequate.

Different types of cargoes to be used for practical training as well as a number of loaded CTUs to inspect and evaluate them.

■ Teaching aids

- A1 Instructor Manual (Part D of the course)
- OH Overheads (Appendix to this course)

■ 目标

完成本课程学习的人员将会了解：

- 货物安全运输和装载的重要性与他们职责的关系
- CTU 装载与系固不当的后果
- 法律要求
- 在公路、铁路和海运过程中货物可能受到作用力的大小
- 货物装载与系固的基本原则

他们还将进一步了解关于货物运输和装载的特殊要求的相关知识，这会在他们的工作职能中得到应用。

■ 入学标准

学习本课程的人员应事先了解：

- 货物的装卸和运输过程
- CTU 的使用知识

■ 课程证书

完成本课程学习的人员应被授予一个证书或一份证明文件，以证明其持有人已经完成 CTU 内货物的装载与系固基础知识的课程学习。

■ 课程人数限制

学员人数通常不应超过 16 名。

■ 教员要求

教员应在 CTU 装载与系固方面具有充分的经验。

■ 教学设施和设备

普通教室需配备投影仪及黑板或白板。

若干不同种类的货物以用于实操训练，及若干已装货物的 CTU 以用于检查和评估。

■ 教具

A1 教师手册（课程中的 D 部分）

OH 投影胶片（本课程的附录）