

SUB-COMMITTEE ON STANDARDS OF
TRAINING AND WATCHKEEPING
43rd session
Agenda item 3

STW 43/3/2
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VALIDATION OF MODEL TRAINING COURSES

Model courses – Security awareness training for seafarers with designated security duties and Security awareness training for all seafarers

Note by the Secretariat

SUMMARY

Executive summary: This document provides two new draft model courses on Security awareness training for seafarers with designated security duties and Security awareness training for all seafarers

Strategic direction: 5.2

High-level action: 5.2.2

Planned output: 5.2.2.5

Action to be taken: Paragraph 3

Related document: STW 40/14

1 Attached in the annexes are draft model courses:

- .1 Security awareness training for seafarers with designated security duties; and
- .2 Security awareness training for all seafarers.

2 These preliminary draft of these model courses were forwarded to members of the validation panel for their comments. Relevant comments on the draft courses have been received from the validation panel and have been incorporated, as appropriate.

Action requested of the Sub-Committee

3 The Sub-Committee is invited to consider the above information and take action as appropriate.

ANNEX 1

**DRAFT IMO MODEL COURSE ON SECURITY AWARENESS TRAINING FOR
SEAFARERS WITH DESIGNATED
SECURITY DUTIES**

Model Course x.xx

**SECURITY AWARENESS TRAINING FOR
SEAFARERS WITH DESIGNATED
SECURITY DUTIES**

IMO

ACKNOWLEDGEMENTS

This course for Seafarers with Designated Security Duties is based on material developed by the United States Maritime Administration.

It was prepared by the United States Merchant Marine Academy at Kings Point, New York.

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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.

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 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 intent of IMO conventions and related recommendations.

■ Use of the model course

To use 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 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 that 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 entry requirements of the course. The instructor should therefore review these assessments and may need to re-allocate the time required to achieve each specific learning objective.

■ Lesson plans

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 for use in the course. Where no adjustment has been found necessary in the learning objectives 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 presentation of the material.

■ Presentation

The presentation of concepts and methodologies must be repeated in various ways until the instructor is satisfied that the trainee has attained each specific learning objective. The syllabus 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 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; and
- other reference material.

Thorough preparation is the key to successful implementation of the course. IMO has produced "Guidance on the Implementation of IMO Model Courses", which deals with this aspect in greater detail and is included as an attachment to this course.

Part A: Course Framework

■ Scope

This model course is intended to provide the knowledge required for seafarers with designated security duties in connection with a Ship Security Plan (SSP) to perform their duties in accordance with the requirements of Chapter XI-2 of SOLAS 74 as amended, the ISPS Code, and section A-VI/6 of the STCW Code, as amended.

■ Objective

Those who successfully complete the course should be able to demonstrate sufficient knowledge to undertake the duties assigned under the SSP. This knowledge shall include, but is not limited to:

1. knowledge of current security threats and patterns;
2. recognition and detection of weapons, dangerous substances and devices;
3. recognition, on a non-discriminatory basis, of characteristics and behavioural patterns of persons who are likely to threaten security;
4. techniques used to circumvent security measures;
5. crowd management and control techniques;
6. security related communications;
7. knowledge of emergency procedures and contingency plans;
8. operation of security equipment and systems;
9. testing, calibration and at-sea maintenance of security equipment and systems;
10. inspection, control, and monitoring techniques; and
11. methods of physical searches of persons, personal effects, baggage, cargo, and ship stores.

■ Entry standards

It is assumed that those attending this course will be serving seafarers or other shipboard personnel and are likely to have designated security duties in connection with the Ship Security Plan.

■ Course certificate, diploma or document

Documentary evidence should be issued to those who have successfully completed this course indicating that the holder has completed training for "Security Awareness Training for Seafarers with Designated Security Duties" based on this model course.

■ Course delivery

The outcome of this course may be achieved through various methods, including classroom training, in-service training, distance learning, computer-based training or combinations of these methods.

■ Course intake limitations

The maximum number of trainees should depend on the facilities and equipment available, bearing in mind the aims and objectives of this course.

■ Staff requirements

The instructor in charge of the course should have adequate experience in maritime security matters and should have knowledge of the requirements of Chapter XI-2 of SOLAS 74 as amended, the ISPS Code, and security-related provisions of the STCW Code, as amended.

It is recommended that instructors should either have appropriate training in or be familiar with instructional techniques and training methods.

■ Teaching facilities and equipment

An ordinary classroom or similar meeting room with a blackboard or equivalent is sufficient for the lectures. In addition, when making use of audiovisual materials, it should be ensured that appropriate equipment is available. Finally, the use of shipboard environments (ships or mock-ups) for certain segments of the course may enhance the overall effectiveness of this training.

■ Teaching aids (A)

- A1 Instructor Manual (Part D of the course)
- A2 Audiovisual aids: video cassette player, TV, slide projector, overhead projector, etc.
- A3 Photographs, models, or other representations of various vessels and vessel parts to illustrate operational elements and security vulnerabilities.
- A4 Video cassette(s)
- A5 Distance learning package(s)
- A6 National legislative and regulatory references

■ Bibliography (B)

- B1 (2010). *Best Management Practices to Deter Piracy off the Coast of Somalia and in the Arabian Sea Area (BMP3)*. Edinburgh: Witherby Seamanship International.
- B2 Fernandez, L., & Merzer, M. (2003). *Jane's Crisis Communications Handbook*, (1st ed.). Alexandria: Jane's Information Group.

- B3 Hawkes, K.G. (1989). *Maritime Security*. Centreville: Cornell Maritime Press.
- B4 International Chamber of Shipping. (2003). *Maritime Security: Guidance for Ship Operators on the IMO International Ship and Port Facility Security Code*. London: ICS.
- B5 International Chamber of Shipping. (2003). *Model Ship Security Plan*. London: ICS.
- B6 International Chamber of Shipping/International Shipping Federation. (2004). *Pirates and Armed Robbers: A Master's Guide*. (4th ed.). London: Marisec Publications.
- B7 Sidell, F.R., et al. (2002). *Jane's Chem-Bio Handbook*. (2nd ed.). Alexandria: Jane's Information Group.
- B8 Sullivan, J.P., et al. (2002). *Jane's Unconventional Weapons Response Handbook*. (1st ed.). Alexandria: Jane's Information Group.
- B9 United States Coast Guard. (2002). *Risk-based Decision Making Guidelines*. PB2002-500115 Washington: NTIS.
- B10 United States Department of Transportation. Volpe National Transportation Systems Center. (1999). *Intermodal Cargo Transportation: Industry Best Security Practices*. Cambridge: Volpe Center.
- B11 Viollis, P., et al. (2002). *Jane's Workplace Security Handbook*. (1st ed.). Alexandria: Jane's Information Group.

■ IMO/ILO references (R)

- R1 International Maritime Organization. (2003). *International Ship & Port Facility Security (ISPS) Code, 2003 and December 2002 Amendments to SOLAS*. London: IMO. (IMO-I116E).
- R1.1 SOLAS Chapter XI-1
- R1.2 SOLAS Chapter XI-2
- R1.3 ISPS Code Part A
- R1.4 ISPS Code Part B
- R2 International Labour Organization. *Seafarers' Hours of Work and the Manning of Ships Convention, 1996*. (No. 180).
- R3 International Labour Organization. *Seafarers' Identity Documents Convention (Revised), 2003*. (No. 185).
- R4 International Maritime Organization. *Seafarers' Training, Certification, and Watchkeeping (STCW) Code, 2010*.
- R4.1 STCW Code Section A-VI/6
- R4.2 STCW Code Table A-VI/6-2
- R5 International Maritime Organization. (2009). "Guidance to Shipowners, Companies, Ship Operators, Shipmasters and Crews on Preventing and Suppressing Acts of Piracy and Armed Robbery against Ships." MSC/Circ.623/Rev.3

■ **Textbooks (T)**

- T1 McNicholas, M. (2007). *Maritime Security: An Introduction*. Burlington: Butterworth-Heinemann.

Part B: Course Outline and Timetable

Course outline

Subject Area	Approximate Time (Hours)	
	Lecture	Practical
1 Introduction 1.1 Course overview 1.2 Competences to be achieved 1.3 Current security threats and patterns 1.4 Ship and port operations and conditions	1.0	
2 Maritime Security Policy 2.1 Familiarity with relevant international conventions, codes, and recommendations 2.2 Familiarity with relevant government legislation and regulations 2.3 Definitions 2.4 Handling sensitive security-related information and communications	0.75	
3 Security Responsibilities 3.1 Contracting governments 3.2 Recognized Security Organizations 3.3 The company 3.4 The ship 3.5 The port facility 3.6 Ship Security Officer 3.7 Company Security Officer 3.8 Port Facility Security Officer 3.9 Seafarers with designated security duties 3.10 Port facility personnel with designated security duties 3.11 Other personnel	1.25	
4 Ship Security Assessment 4.1 Assessment tools 4.2 On-scene security surveys	1.0	

<p>5 Security Equipment</p> <p>5.1 Security equipment and systems</p> <p>5.2 Operational limitations of security equipment and systems</p> <p>5.3 Testing, calibration and maintenance of security equipment and systems</p>	1.0	
<p>6 Threat Identification, Recognition, and Response</p> <p>6.1 Recognition and detection of weapons, dangerous substances and devices</p> <p>6.2 Methods of physical searches and non-intrusive inspections</p> <p>6.3 Execution and coordination of searches</p> <p>6.4 Recognition, on a non-discriminatory basis, of persons posing potential security risks</p> <p>6.5 Techniques used to circumvent security measures</p> <p>6.6 Crowd management and control techniques</p>	1.5	
<p>7 Ship Security Actions</p> <p>7.1 Actions required by different security levels</p> <p>7.2 Maintaining security of the ship/port interface</p> <p>7.3 Familiarity with the Declaration of Security</p> <p>7.4 Reporting security incidents</p> <p>7.5 Execution of security procedures</p>	1.0	
<p>8 Emergency Preparedness, Drills, and Exercises</p> <p>8.1 Execution of contingency plans</p> <p>8.2 Security drills and exercises</p>	1.0	
<p>9 Security Administration</p> <p>9.1 Documentation and records</p>	0.5	
<p>Total:</p>	9.0	

Course Timetable

Day/Period	1st Period (2.0 hours)	2nd Period (2.0 hours)	3rd Period (2.5 hours)	4th Period (2.5 hours)
Day 1	<p>1 Introduction</p> <p>1.1 Course overview</p> <p>1.2 Competences to be achieved</p> <p>1.3 Current security threats and patterns</p> <p>1.4 Ship and port operations and conditions</p> <p>2 Maritime Security Policy</p> <p>2.1 Familiarity with relevant international conventions, codes, and recommendations</p> <p>2.2 Familiarity with relevant government legislation and regulations</p> <p>2.3 Definitions</p> <p>2.4 Handling sensitive security-related information and communications</p> <p>3 Security Responsibilities</p> <p>3.1 Contracting governments</p> <p>3.2 Recognized Security Organizations</p>	<p>3.3 The company</p> <p>3.4 The ship</p> <p>3.5 The port facility</p> <p>3.6 Ship Security Officer</p> <p>3.7 Company Security Officer</p> <p>3.8 Port Facility Security Officer</p> <p>3.9 Seafarers with designated security duties</p> <p>3.10 Port facility personnel with designated security duties</p> <p>3.11 Other personnel</p> <p>4 Ship Security Assessment</p> <p>4.1 Assessment tools</p> <p>4.2 On-scene security surveys</p>	<p>5 Security Equipment</p> <p>5.1 Security equipment and systems</p> <p>5.2 Operational limitations of security equipment and systems</p> <p>5.3 Testing, calibration and maintenance of security equipment and systems</p> <p>6 Threat Identification, Recognition, and Response</p> <p>6.1 Recognition and detection of weapons, dangerous substances and devices</p> <p>6.2 Methods of physical searches and non-intrusive inspections</p> <p>6.3 Execution and coordination of searches</p> <p>6.4 Recognition, on a non-discriminatory basis, of persons posing potential security risks</p> <p>6.5 Techniques used to circumvent security measures</p> <p>6.6 Crowd management and control techniques</p>	<p>7 Ship Security Actions</p> <p>7.1 Actions required by different security levels</p> <p>7.2 Maintaining security of the ship/port interface</p> <p>7.3 Familiarity with the Declaration of Security</p> <p>7.4 Reporting security incidents</p> <p>7.5 Execution of security procedures</p> <p>8 Emergency Preparedness, Drills, and Exercises</p> <p>8.1 Execution of contingency plans</p> <p>8.2 Security drills and exercises</p> <p>9 Security Administration</p> <p>9.1 Documentation and records</p>

Part C: Detailed Teaching Syllabus

The detailed teaching syllabus has been written in learning objective format in which the objective describes what the trainee should be able to do to demonstrate that knowledge has been transferred. All objectives are understood to be prefixed by the words, "The expected learning outcome is that the trainee".

In order to assist the instructor, references are shown against the learning objectives to indicate IMO/ILO references and publications, additional technical material and teaching aids, which the instructor may wish to use when preparing course material. The material listed in the course framework has been used to structure the detailed teaching syllabus; in particular:

Teaching aids (indicated by A);
Bibliography (indicated by B); and
IMO/ILO references (indicated by R);

will provide valuable information to instructors. The abbreviations used are:

add.: addendum

app.: appendix

art.: article

ch.: chapter

encl.: enclosure

p.: page

pa.: paragraph

reg.: regulation

sect.: section

The following are examples of the use of references:

R1.2 reg.1 refers to regulation 1 of the December, 2002 Amendments to the 1974 SOLAS Convention;

AI sect.5 refers to training section 5 ("Security Equipment") in the guidance notes of the instructor manual.

■ Note

Throughout the course, safe working practices are to be clearly defined and emphasized with reference to current international requirements and regulations. It is expected that the institution implementing the course will insert references to national and/or regional requirements and regulations as necessary.

■ Competences

The competences to be demonstrated by candidates may be expressed as follows:

1. Maintain the conditions set out in a Ship Security Plan;
2. Recognition of security risks and threats;
3. Undertake regular inspections of the ship; and
4. Proper usage of security equipment and systems, if any.

Knowledge, understanding and proficiency	IMO/ILO Reference	Bibliography	Teaching Aid
<p>1. Introduction (1.0 hour)</p> <p>1.1. Course overview</p> <p>.1 describes the topics and emphasis of the course</p> <p>1.2. Competences to be achieved</p> <p>.1 describes the competences that will be achieved through completion of the course</p> <p>1.3. Current security threats and patterns</p> <p>.1 summarizes threats to the maritime transport industry, such as:</p> <ul style="list-style-type: none"> ➤ piracy and armed attacks ➤ terrorism ➤ contraband smuggling ➤ stowaways and refugees ➤ cargo theft ➤ collateral damage <p>1.4. Ship and port operations and conditions</p> <p>.1 characterizes the intermodal nature of transportation and the interfaces between ships and other modes</p>	<p>R1 R4.1 R4.2</p> <p>R5</p>	<p>B1, B6</p>	<p>A1 pa. 1.2</p> <p>A1 pa. 1.3</p> <p>A1 pa. 1.4</p>
<p>2. Maritime Security Policy (0.75 hour)</p> <p>2.1. Familiarity with relevant international conventions, codes, and recommendations</p> <p>.1 summarizes previous efforts of IMO toward maritime security, such as MSC/Circ.443, SUA Act, etc.</p> <p>.2 summarizes the rapidity with which IMO acted to enhance maritime security following 9/11</p> <p>.3 summarizes the amendments to SOLAS Chapter XI and the contents of the ISPS Code</p> <p>.4 summarizes the security-related provisions of the amendments to the STCW Code</p> <p>.5 summarizes IMO guidance on preventing and suppressing acts of piracy and armed robbery against ships</p>	<p>R1</p> <p>R4</p> <p>R5</p>	<p>B4</p>	<p>A1 sect. 2</p> <p>A1 pa. 2.1</p>

Knowledge, understanding and proficiency	IMO/ILO Reference	Bibliography	Teaching Aid
<p>.3 discusses the security aspects of ship layout</p> <p>.4 divides the survey into the following sections:</p> <ul style="list-style-type: none"> ➤ Physical Security ➤ Structural Integrity ➤ Personnel Protection Systems ➤ Procedural Policies ➤ Radio and Telecommunication Systems ➤ Other Areas <p>.5 discusses the importance and elements of physical security aboard ships</p> <p>.6 describes the significance of structural integrity for ships and other structures</p> <p>.7 discusses the components and operations of systems to protect shipboard personnel</p> <p>.8 states the role of proper procedures in preventing and mitigating security incidents, including attacks by pirates and armed robbers</p> <p>.9 describes the use of information technology and communications systems in ship operations and in maintaining security</p> <p>.10 identifies other areas that may, if damaged or used for illicit observation, pose a risk to persons, property, or operations aboard the ship or within a port facility</p> <p>.11 discusses the identification of vulnerabilities in the above areas and the preparation of countermeasures to address them</p> <p>.12 states the importance of having in place emergency plans to deal with contingencies</p>	R5	B1, B6	

Knowledge, understanding and proficiency	IMO/ILO Reference	Bibliography	Teaching Aid
<p>.3 describes the equipment the search team should carry for conducting a search</p> <p>.4 describes the procedures to be followed for an efficient search</p> <p>.5 describes the various places of concealment on board a ship</p> <p>6.4. Recognition, on a non-discriminatory basis, of persons posing potential security risks</p> <p>.1 describes the general characteristics and behavioural patterns of persons who are likely to threaten security</p> <p>.2 states how important it is to be observant to recognize such persons</p> <p>6.5. Techniques used to circumvent security measures</p> <p>.1 describes the techniques that may be used to circumvent security measures</p> <p>.2 explains the methods used by pirates and armed robbers to undertake attacks against ships</p> <p>6.6. Crowd management and control techniques</p> <p>.1 explains the basic psychology of a crowd in a crisis situation</p> <p>.2 states the importance of clear communication with crew and passengers during an emergency</p>	<p>R5</p>	<p>B1, B6</p>	

Knowledge, understanding and proficiency	IMO/ILO Reference	Bibliography	Teaching Aid
<p>9. Security Administration (0.5 hours)</p> <p>9.1. Documentation and records</p> <p>.1 states the documents that shall be available on board at all times</p> <p>.2 states the activities for which records shall be kept on board and the duration for which they should be retained.</p>	<p>R1.1 R1.2 R1.3 sect. 10</p>		<p>A1 sect. 9 A6</p>

Part D: Instructor Manual

The instructor manual provides guidance on the material that is to be presented during the course for Seafarers with Designated Security Duties. This manual reflects the views of the course developers with respect to methodology and organization as well as what they consider relevant and important in light of their experience as instructors. Although the guidance given should be of value initially, each instructor should develop his or her own methods and ideas, recognize and refine what is successful, and discard that which does not work satisfactorily.

The material has been arranged under the following nine main headings:

- 1 Introduction
- 2 Maritime Security Policy
- 3 Security Responsibilities
- 4 Ship Security Assessment
- 5 Security Equipment
- 6 Threat Identification, Recognition, and Response
- 7 Ship Security Actions
- 8 Emergency Preparedness, Drills, and Exercises
- 9 Security Administration

The course outline and timetable provide guidance on the time allocation for the course material, but the instructor is free to modify this if it is deemed necessary. The detailed teaching syllabus must be studied carefully and, where appropriate, lesson plans or lecture notes compiled.

Preparation and planning are the most important criteria in effectively presenting this course. Availability and proper use of course materials are also essential for maximum efficacy in conveying the subject to trainees. The capabilities and limitations of the facilities in use may dictate that the learning objectives be adjusted but it is suggested that this be kept to a minimum.

Where possible, lectures should be supported by written course materials, videos, and other media that allow the trainee to embrace the material more fully. It will be necessary to prepare material for use with overhead projectors or for distribution to trainees as handouts.

Guidance Notes

1 Introduction

1.1 Course overview

As with other IMO model courses, the starting point should be a brief statement of the purpose of the course, a short review of the timeline, an introduction of participants, determination of knowledge and experience levels, and a brief description of the teaching facility.

1.2 Competences to be achieved

The aim of the course is stated, competences from Part C of the course are reviewed, and the outcome of the learning objectives is made clear; namely, that "the expected learning outcome is that the trainee". It should be noted that these same competences are found in Table A-VI/6-2 of the STCW Code along with methods for demonstrating competence and criteria for evaluating competence. Special attention should be given to the requirement therein for practical demonstrations of skill in conducting physical searches and non-intrusive inspections.

Instructors should emphasize that no one is being trained to fight or similarly respond to security threats but rather that trainees may be able to identify, deter, or mitigate such threats through proper planning, preparation and coordination with various entities.

1.3 Current security threats and patterns

Current threats to maritime security should be summarized in order to provide a basis for understanding of the recent conventions and legislation in this area and to fully grasp the importance of the training provided by this course. Prospective security personnel receiving this training must clearly sense the reality of today's security issues, which include piracy, terrorism, contraband smuggling, cargo theft, and collateral damage. Some may have adopted a mindset that places the problem of security in the past or in such a remote corner that it appears distant or irrelevant. Before continuing on with the course this mindset should be identified and addressed.

Piracy and armed attacks continue to occur on an increasingly frequent basis. Armed robbery occurs mostly in port areas, whereas piracy, by definition, usually involves ships at sea. In fact, the United Nations Convention on the Law of the Sea, Article 101, defines piracy as any of the following acts: illegal acts of violence or detention or any act of depredation committed for private ends by the crew or the passengers of a private ship or private aircraft and directed on the high seas against another ship or aircraft or against persons or property on board such ship or aircraft. It also includes such acts against a ship, aircraft, person or property in a place outside of the jurisdiction of any State. The summarizing of statistics concerning piracy and armed robbery may provide motivation to trainees to acquire knowledge and skills that would enable them to counter these threats where possible.

Terrorism usually involves violence, or the threat of violence, by extremist groups seeking to gain political objectives by malicious means. A terrorist group may hope to make a statement by using various types of bombs, making bomb threats or hijacking a ship. Increasingly, terrorists are acting in connection with extremist religious sects that promote suicidal behaviour.

Contraband smuggling, a criminal activity, may result in large financial loss to the ship owner whose ship is being used by the smugglers. Often, drugs are the commodity being smuggled and they may be brought on board in a number of creative ways such as in luggage, stores, on or in a person's body, or in electronic equipment. Weapons are also a frequent item associated with smuggling. Like drugs, weapons, too, find their way on board in various ways, such as in cargo containers.

Cargo theft, an age-old problem, continues to plague the maritime industry and causes financial losses in staggering amounts. Prevention is normally the most effective method of dealing with this security threat. Although there may not be violence or political issues involved in most cargo theft cases, this matter remains high on the list of security threats and requires solutions discussed in this course. Instructors should convey that cargo theft is only one of the various threats to the security of cargo. Other such security threats should be discussed during this section of the course.

Collateral damage occurs when a nearby fire, explosion, or attack results in damage to a ship or facility. While the damage is sometimes unintended, the costs are nevertheless real. There are measures that may minimize the consequences of this type of damage.

1.4 Ship and port operations and conditions

This section of the course should provide trainees with an understanding of the larger context in which maritime operations occur. Familiarity with the complex transportation and logistics framework of the marine transportation system will enable students to effectively undertake their security responsibilities. It is essential for students to have a basic understanding of the general patterns and mechanisms of cargo and passenger movement through international and intermodal transportation chains. The operational interface between maritime and other modes of transportation is a central component of this segment of the course. Trainees should also be exposed to the fundamentals of cargo tracking and related information systems in the context of security.

2 Maritime Security Policy

2.1 Familiarity with relevant international conventions, codes, and recommendations

Trainees should appreciate the attempts by international bodies to minimize, stop, or otherwise control threats to security in maritime transportation. The International Maritime Organization (IMO) has adopted a number of resolutions and conventions to this end. For example, Resolution A.545(13)--Measures To Prevent Acts Of Piracy And Armed Robbery Against Ships was signed in 1983. In 1985 came IMO Resolution A.584 (14)--Measures To Prevent Unlawful Acts Which Threaten Safety Of Ships And Security Of Passengers (this was later reviewed in November of 2001 with IMO Resolution A.924(22)). Then in 1986 the IMO approved MSC/Circ.443--Measures To Prevent Unlawful Acts Against Passengers And Crew On Board Ships. In 1988, the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (SUA) treaties aimed at ensuring that appropriate judicial

action is taken against persons committing unlawful acts against ships. Unlawful acts would include the seizure of ships by force, acts of violence against persons on board ships, and placing devices on board a ship which are likely to destroy or damage it. The convention obliges contracting governments either to extradite or prosecute alleged offenders. The SUA came into effect on March 1, 1992.

Following the tragic events of September 11, 2001 the twenty-second session of the IMO, in November of 2001, unanimously agreed to the creation of new security regulations. IMO approved the development of new measures relating to the security of ships and of port facilities for adoption by a Conference of Contracting Governments to the International Convention for the Safety of Life at Sea, 1974 in December of 2002 (the Diplomatic Conference). This timetable of little more than a year represents a landmark achievement for the IMO. It provides a clear indication of the gravity of the situation as well as the intention to protect world shipping against security incidents and threats.

The meeting of the Diplomatic Conference in December of 2002 resulted in amendments to SOLAS 74. These amendments enter into force on July 1, 2004. A brief summary of these amendments should be carried out with mention of changes to Chapter V but with emphasis on the changes to Chapter XI, Regulations 3 and 5 and the new Chapter XI-2 Regulations 1 - 13 and the ISPS Code. Since portions of the ISPS Code will be studied in more depth in later sections of the course, the summary here can be brief.

Trainees should be familiarized with the security-related provisions contained in the 2010 amendments to the STCW Code. They should also be made aware of IMO guidance concerning the prevention and suppression of piracy and armed robbery against ships. Of particular interest in the latter case will be MSC/Circ.623/Rev.3 ("Guidance to Shipowners, Companies, Ship Operators, Shipmasters and Crews on Preventing and Suppressing Acts of Piracy and Armed Robbery against Ships").

2.2 Familiarity with relevant government legislation and regulations

It will be helpful for trainees to understand that some governments have acted on a national level to produce legislation and/or regulations concerned with measures to enhance maritime security. Instructors may wish to use examples developed by their own nations and/or those of other countries to illustrate the focus of this section of the course.

2.3 Definitions

Trainees will need a working knowledge of several terms found in SOLAS Chapter XI-2 Regulation 1, in the ISPS Code Part A Section 2, and in the *Best Management Practices to Deter Piracy off the Coast of Somalia and in the Arabian Sea Area (BMP3)*. These terms may well need clarification by an experienced instructor in order for trainees to reach the necessary level of understanding. For instance, it might require emphasis or other clarification by the instructor to establish that the Ship Security Officer is a person on board the ship and in that sense it may be impossible for a Company Security Officer to also act as the Ship Security Officer.

2.4 Handling sensitive security-related information and communications

Trainees should understand that certain information and communications will be considered security sensitive and that the level of sensitivity may change, as do levels of security 1, 2, and 3. Seemingly benign conversations, therefore, may result in disastrous consequences. All personnel will need to appreciate the risk of security leaks through communication by improper methods or to the wrong persons.

3 Security Responsibilities

This section is intended to give trainees a clear picture of the elements of the maritime security system conceived of by the IMO and to show how the various entities should work together to form an efficient and effective whole.

3.1 Contracting governments

SOLAS Chapters XI-1 and XI-2 discuss the roles of the contracting governments and their obligations in the overall scheme to enhance maritime security. Familiarity with this information will help trainees comprehend how and why their own governments have acted and how they may experience the port state control exercised by another government.

3.2 Recognized Security Organizations

Recognized Security Organizations are defined in SOLAS Chapter XI-2 Regulation 1 part 1.16 and discussed throughout Parts A and B of the ISPS Code. The trainee should understand how and when an RSO may take on the security-related activities of a contracting government.

3.3 The company

The company is defined by SOLAS Chapter XI-1 and is given numerous obligations under Chapter XI-2 and the ISPS Code from Continuous Synopsis Records to the maintenance of the International Ship Security Certificate. Trainees will benefit greatly from a clear understanding of the role of the company and the support that they should expect from it.

3.4 The ship

The term ship as used here means a ship to which Chapter XI of SOLAS applies. Various segments of Chapter XI and the ISPS Code discuss the persons, activities, plans, documentation and so forth that a ship will be exposed to in a security context. All trainees will need to understand these requirements as they relate to this important cornerstone of a maritime transportation system.

3.5 The port facility

The port facility is defined in SOLAS Chapter XI-2 Regulation 1 part 1.9 and is the location where a ship/port interface takes place. As such, numerous duties and activities are assigned to the port facility. All trainees should understand the role of the port facility in maintaining the security of the maritime transportation system.

3.6 - 3.11 Ship Security Officer, Company Security Officer, Facility Security Officer, Seafarers with Designated Security Duties, Port Facility Personnel with Designated Security Duties, and Other Personnel

Trainees should understand the role of each of these various persons and know what to expect from each in terms of authority and responsibility. The ISPS Code Parts A and B clearly delineate the functions, duties, and training requirements for each of these categories of personnel. In the end these are the very people that will make the security plans work and will recognize areas for improvement. They will each need to appreciate their own role as well as that played by the others. Trainees should also understand the role of personnel in organizations that are involved in responding to attacks and attempted attacks by pirates and armed robbers.

4 Ship Security Assessment

4.1 Assessment tools

Trainees must be encouraged to adopt systematic and consistent approaches to the evaluation of security conditions and vulnerabilities. Seafarers with designated security duties may be called upon to assist in these evaluations. The use of checklists to perform assessments of security in day-to-day operations should therefore be discussed, noting the inclusion of categories such as the following:

- General layout of the ship.
- Location of areas that should have restricted access, such as the bridge, engine-room, radio room, etc.
- Location and function of each actual or potential access point to the ship.
- Open deck arrangement including the height of the deck above water.
- Emergency and stand-by equipment available to maintain essential services.
- Numerical strength, reliability, and security duties of the ship's crew.
- Existing security and safety equipment for protecting the passengers and crew.
- Existing agreements with private security companies for providing ship and waterside security services.

- Existing protective measures and procedures in practice, including inspection, control and monitoring equipment, personnel identification documents and communication, alarm, lighting, access control and other appropriate systems.

4.2 On-scene security surveys

Trainees should be taught that the on-scene security survey is an integral part of any Ship Security Assessment. They should understand that the survey should fulfill the following functions:

- identification of existing security measures, procedures and operations;
- identification and evaluation of key ship operations that it is important to protect;
- identification of possible threats to the key ship operations and the likelihood of their occurrence, in order to establish and prioritize security measures; and
- identification of weaknesses, including human factors in the infrastructure, policies and procedures.

It should be emphasized to course participants that the on-scene survey should examine and evaluate existing ship protective measures, procedures and operations for:

- ensuring the performance of all security duties;
- controlling access to the ship, through the use of identification systems or otherwise;
- controlling the embarkation of ship personnel and other persons and their effects, including personal effects and baggage whether accompanied or unaccompanied;
- supervising the handling of cargo and the delivery of ship stores;
- monitoring restricted areas to ensure that only authorized persons have access;
- monitoring of deck areas and areas surrounding the ship both at sea and in port, with particular attention to the prevention of piracy and armed robbery; and
- ensuring the ready availability of security communications, information, and equipment.

5 Security Equipment

5.1 Security equipment and systems

Course participants should be familiar with the types of security equipment and systems that are useful in enhancing maritime security, both ashore and afloat. Examples of such equipment include:

- AIS
- Ship Security Alert System

- Locks
- Lighting
- Handheld radios
- GMDSS equipment
- Closed Circuit Televisions
- Automatic Intrusion Detection Device (Burglar Alarm)
- Metal detectors
- Explosive detectors
- Baggage screening equipment
- Container X-ray devices
- General alarm
- Long Range Acoustic Device (LRAD)
- Razor wire
- Electric fencing
- Yacht radar
- Netting
- Slippery foam
- Security glass film
- Water and foam monitors
- Other anti-piracy devices

Participants are not expected to acquire detailed technical or scientific knowledge concerning the theoretical underpinnings of the operation of security equipment. The objective is to ensure familiarity with the capabilities of such devices and systems. Instructors should stress the need for familiarization training involving the specific security equipment aboard each ship.

5.2 Operational limitations of security equipment and systems

The intent of this course segment is to communicate to trainees the functional limitations and operating constraints of security equipment that they may encounter or be called upon to use. Issues such as effective range, environmental sensitivities, and operator (human) error should be addressed as appropriate.

Trainees should be made cognizant of the risks and benefits inherent in the use of security equipment and systems that may be employed to deter and mitigate attacks by pirates and armed robbers against ships. Particular concern should be paid to the extent to which the use of such equipment may expose seafarers to personal danger, escalate conflict with boarders, or compromise the safety of the ship and/or cargo.

5.3 Testing, calibration and maintenance of security equipment and systems

Trainees should be familiar with methods for ensuring the continuing accuracy, efficiency, and operational readiness of selected items of security equipment and associated systems.

6 Threat Identification, Recognition, and Response

6.1 Recognition and detection of weapons, dangerous substances and devices

The focus of this segment of the course is on the characteristics and potential effects of prohibited weapons; explosives; chemical, biological, and radiological devices; substances and compounds that pose a hazard to personnel, ships, and facilities, and other related topics.

6.2 Methods of physical searches and non-intrusive inspections

In this segment of the course, trainees will learn techniques used to conduct physical and non-intrusive searches of persons, personal effects, baggage, cargo, and ship's stores. Trainees should be informed that, unless there are clear security grounds for doing so; members of the ship's crew should not be required to search their colleagues or their personal effects. It should be conveyed that any such search shall be undertaken in a manner that fully takes into account the human rights of the individual and preserves his or her basic human dignity.

6.3 Execution and coordination of searches

Trainees should be acquainted with the utility of "check cards" in conducting systematic searches. A "check card" is a card that can be issued to each searcher specifying the route to follow and the areas to be searched. These cards can be colour-coded for different areas of responsibility, for example blue for deck, red for engine-room. On completion of individual search tasks, the cards are returned to a central control point. When all cards are returned, the search is known to be complete. The findings of the search can then be discussed.

Course participants should be familiar with the list of basic equipment that may be employed in conducting searches. This list may include:

- flashlights and batteries;
- screwdrivers, wrenches and crowbars;
- mirrors and probes;

- gloves, hard hats, overalls and non-slip footwear;
- plastic bags and envelopes for collection of evidence;
- forms on which to record activities and discoveries.

Trainees should learn procedures to be followed so as to ensure effective and efficient searches. Examples of these include the following:

- Crew members should not be allowed to search their own areas in recognition of the possibility that they may have concealed packages or devices in their own work or personal areas
- The search should be conducted according to a specific plan or schedule and must be carefully controlled.
- Special consideration should be given to search parties working in pairs with one searching "high" and one searching "low". If a suspicious object is found, one of the pair can remain on guard while the other reports the find.
- Searchers should be able to recognize suspicious items.
- There should be a system for marking or recording "clean" areas
- Searchers should maintain contact with the search controllers, perhaps by UHF / VHF radio, bearing in mind the dangers of using non-intrinsically safe radio equipment in the vicinity of Improvised Explosive Devices (IEDs).
- Searchers should have clear guidance on what to do if a suspect package, device, or situation is found.
- Searchers should bear in mind that weapons and other dangerous devices may be intentionally placed to match its context as a means of disguise, such as a toolbox in an engine-room.

Participants in the course should be acquainted with the fact that there are many places on board a ship where weapons, dangerous substances, and devices can be concealed. Some of these are:

Cabins

- Back sides and underneath drawers
- Between bottom drawer and deck
- Beneath bunks, e.g., taped to bunk frame under mattress
- Under wash basin
- Behind removable medicine chest
- Inside radios, recorders etc.
- Ventilator ducts
- Inside heater units
- Above or behind light fixtures
- Above ceiling and wall panels

- Cut-outs behind bulkheads, pictures, etc.
- False bottom clothes closets-hanging clothes
- Inside wooden clothes hangers
- Inside rolled socks, spare socks
- Hollowed-out molding

Companionways

- Ducts
- Wire harnesses
- Railings
- Fire extinguishers
- Fire hoses and compartments
- Access panels in floors, walls, ceilings
- Behind or inside water coolers, igloos

Toilet and Showers

- Behind and under washbasins
- Behind toilets
- In ventilation ducts and heaters
- Toilet tissue rollers, towel dispensers, supply lockers
- Taped to shower curtains, exposed piping, and light fixtures
- Access panels in floors, walls, ceiling

Deck

- Ledges on deck housing, electrical switch rooms, winch control panels
- Lifeboat storage compartments, under coiled lines, in deck storage rooms
- Paint cans, cargo holds, battery rooms, chain lockers.

Engine-room

- Under deck plates
- Cofferdams, machinery pedestals, bilges
- Journal-bearing shrouds and sumps on propeller shaft
- Under catwalk, in bilges, in shaft alley
- Escape ladders and ascending area
- In ventilation ducts, attached to piping or in tanks with false gauges
- Equipment boxes, emergency steering rooms, storage spaces.

Galleys and Stewards' Stores

- Flour bins and dry stores
- Vegetable sacks, canned foods (re-glued labels)

- Under or behind standard refrigerators
- Inside fish or sides of beef in freezers
- Bonded store lockers, slop chest, storage rooms.

6.4 Recognition, on a non-discriminatory basis, of persons posing potential security risks

Instructors should explain suspicious patterns of behaviour, while emphasizing the importance of avoiding racial profiling and ethnic stereotyping. Examples of suspicious behaviours include:

- Unknown persons photographing vessels or facilities.
- Unknown persons attempting to gain access to vessels or facilities.
- Individuals establishing businesses or roadside food stands either adjacent to or in proximity to facilities.
- Unknown persons loitering in the vicinity of ships or port facilities for extended periods of time.
- Unknown persons telephoning facilities to ascertain security, personnel, or standard operating procedures.
- Vehicles with personnel in them loitering and perhaps taking photographs or creating diagrams of vessels or facilities.
- Small boats with personnel on board loitering and perhaps taking photographs or creating diagrams of vessels or facilities.
- General aviation aircraft operating in proximity to vessels or facilities.
- Persons who may be carrying bombs or participating in suicide squad activities.
- Unknown persons attempting to gain information about vessels or facilities by walking up to personnel or their families and engaging them in a conversation.
- Vendors attempting to sell merchandise.
- Workmen trying to gain access to facilities to repair, replace, service, or install equipment.
- E-mails attempting to obtain information regarding the facility, personnel, or standard operating procedures.
- Package drop-offs/attempted drop-offs.
- Anti-national sentiments being expressed by employees or vendors.
- Anti-national pamphlets or flyers distributed to employees or placed on windshields in parking lots.

- Out-of-the-ordinary phone calls.
- Recreational boaters or persons aboard refugee craft posing as mariners in distress to attract assistance from other vessels.
- High-speed skiffs approaching the ship on an intercepting course.
- Small craft containing ladders, grappling hooks, and other potential boarding devices.
- The presence of "mother ships" in the vicinity of one or more small craft.

6.5 Techniques used to circumvent security measures

Trainees should be cautioned that no security equipment or measure is infallible. They should be apprised of the known techniques that can be employed to evade security systems and controls, such as the disabling of alarm systems, picking of locks, jamming of radio signals, etc.

The known methods employed by pirates and armed robbers to board ships and undertake attacks should be elaborated upon. The *Best Management Practices to Deter Piracy off the Coast of Somalia and in the Arabian Sea Area (BMP3)* provides a helpful description of typical pirate attacks that may serve as a foundation for this discussion.

6.6 Crowd management and control techniques

Course participants should be familiarized with the basic patterns of behaviour of people in groups during time of crisis. The critical importance of clear communication with shipboard personnel, facility personnel, passengers, and others involved should be underscored.

7 Ship Security Actions

Parts A and B of the ISPS Code, IMO guidance documents, and other resources listed in Part A will be helpful in organizing material to be conveyed in this section of the course. Instructors should indicate that this section of the course is where ideas, plans, and preparation turn into actions and procedures.

7.1 Actions required by different security levels

The instructor should provide information concerning maritime security levels and the different types of security measures that should be considered for ships at sea and those in port as they respond to security incidents. Trainees may benefit from the in-class creation of checklists detailing the appropriate generic actions given various conditions. The importance of familiarization training involving the Ship Security Plan particular to each ship should be emphasized.

Trainees should be familiarized with the types of actions required in case of attacks and attempted attacks by pirates and armed robbers. Noting that procedures will vary depending

on the construction of the vessel, the composition of the crew, and other factors, trainees should understand recommended actions as suggested in MSC/Circ.623/Rev.3 ("Guidance to Shipowners, Companies, Ship Operators, Shipmasters and Crews on Preventing and Suppressing Acts of Piracy and Armed Robbery against Ships") and in the *Best Management Practices to Deter Piracy off the Coast of Somalia and in the Arabian Sea Area (BMP3)*.

7.2 Maintaining security of the ship/port interface

The ship/port interface determines the need for a Port Facility Security Plan and the interaction with the Ship Security Plan. Instructors should ensure that trainees are clear on the critical importance of the interaction between the Ship Security Plan and that of the facility.

7.3 Familiarity with the Declaration of Security

The Declaration of Security is defined in Regulation 1 of SOLAS Chapter XI-1. There is a sample Declaration of Security in Appendix 1 of Part B of the ISPS Code, which may be helpful in summarizing for trainees the nature and use of the Declaration of Security.

7.4 Reporting security incidents

Trainees will appreciate that all security incidents must be reported in accordance with specific reporting requirements. It may be helpful for instructors to provide several sample security incidents and have the class or individuals explain how they would go about reporting these incidents. Protocols specifically developed for reporting piracy and armed robbery against ships should be explained.

7.5 Execution of security procedures

Building on the understanding gained from previous sections in this course, trainees should be ready to synthesize the requirements and plans into actual procedures such as security inspections, controlling access to the ship, verifying and controlling the use of identification credentials, monitoring deck areas and areas surrounding the ship, and so forth.

8 Emergency Preparedness, Drills, and Exercises

8.1 Execution of contingency plans

This portion of the course is concerned with the implementation of plans for a variety of contingencies associated with terrorism and other criminal activities that may arise in the maritime setting. Possible responses in the case of bomb threats, explosions, piracy, armed robbery, hijackings, and similar events should be discussed.

8.2 Security drills and exercises

It should be conveyed to course participants that the objective of drills and exercises is to ensure that shipboard personnel are proficient in all assigned security duties at all security levels and in the identification of any security-related deficiencies that need to be addressed.

Trainees should learn that effective implementation of the provisions of the Ship Security Plan requires that drills be conducted at least once every three months. In addition, in cases where more than 25 percent of the ship's personnel have been changed, at any one time, with personnel that have not previously participated in any drill on that ship within the last 3 months, a drill should be conducted within one week of the change. These drills should test individual elements of the plan such as:

- damage to, or destruction of, the ship or of a port facility, e.g., by explosive devices, arson, sabotage or vandalism;
- hijacking or seizure of the ship or of persons on board;
- attacks by armed robbers;
- tampering with cargo, essential ship equipment, systems, or ship stores;
- unauthorized access or use, including presence of stowaways;
- smuggling weapons or equipment, including weapons of mass destruction;
- use of the ship to carry persons intending to cause a security incident, or their equipment;
- use of the ship itself as a weapon or as a means to cause damage or destruction;
- attacks from seaward while at berth or at anchor; and
- attacks while at sea.

Various types of exercises involving participation of ship security personnel should be carried out at least once each calendar year with no more than 18 months between the exercises. These exercises should test communications, coordination, resource availability, and response. These exercises may be:

- full scale or live;
- tabletop simulation or seminar; or
- combined with other exercises held such as search and rescue or emergency response exercises.

9 Security Administration

9.1 Documentation and records

Drawing on SOLAS Chapter XI-1 Regulation 5 and Chapter XI-2, the instructor will find references to, and examples of, required documents as well as requirements for record keeping. Record-keeping requirements associated with the Ship Security Plan should be summarized.

Part E: Evaluation

■ Introduction

The effectiveness of any evaluation depends on the accuracy of the description of what is to be measured.

The learning objectives that are used in the detailed teaching syllabus will provide a sound base for the construction of suitable tests for evaluating trainee progress.

■ Method of evaluation

The methods chosen to carry out an evaluation will depend upon what the trainee is expected to achieve in terms of knowing, comprehending and applying the course content.

The methods used can range from a simple question-and-answer discussion with the trainees (either individually or as a group) to prepared tests requiring the selection of correct or best responses from given alternatives, the correct matching of given items, the supply of short answers or the supply of more extensive written responses to prepared questions.

Where the course content is aimed at the acquisition of practical skills, the test would involve a practical demonstration by the trainee making use of appropriate equipment, tools, etc. The responses demanded may therefore consist of:

- the recall of facts or information, by viva-voce or objective tests
- the practical demonstration of an attained skill
- the oral or written description of procedures or activities
- the identification and use of data from sketches, drawings, maps, charts, etc.
- carrying out calculations to solve numerical problems
- the writing of an essay or report.

■ Validity

The evaluation must be based on clearly defined objectives, and it must truly represent what is to be measured. There must be a reasonable balance between the subject topics involved and also in the testing of trainees' KNOWLEDGE, COMPREHENSION and APPLICATION of concepts.

The time allocated for the trainee to provide a response is very important. Each question or task must be properly tested and validated before it is used to ensure that the test will provide a fair and valid evaluation.

■ Reliability

To be reliable, an evaluation procedure should produce reasonably consistent results no matter which set of papers or version of the test is used.

■ Subjective testing

Traditional methods of evaluation require the trainee to demonstrate what has been learned by stating or writing formal answers to questions.

Such evaluation is subjective in that it invariably depends upon the judgment of the evaluator. Different evaluators can produce quite different scores when marking the same paper or evaluating oral answers.

■ Objective testing

A variety of objective tests have been developed over the years. Their common feature is that the evaluation does not require a judgment by the evaluator. The response is either right or wrong.

One type of objective test involves supplying an answer, generally a single word, to complete the missing portion of a sentence. Another involves supplying a short answer of two or three words to a question. Such tests are known as 'completion tests' and 'short answer tests'.

Another form of objective testing consists of 'selective response tests' in which the correct, or best, response must be selected from given alternatives. Such tests may consist of 'matching tests', in which items contained in two separate lists must be matched, or they may be of the true/false type or of the multiple-choice type.

The most flexible form of objective test is the multiple-choice test, which presents the trainee with a problem and a list of alternative solutions, from which he must select the most appropriate.

■ Distracters

The incorrect alternatives in multiple-choice questions are called 'distracters', because their purpose is to distract the uninformed trainee from the correct response. The distracter must be realistic and should be based on misconceptions commonly held, or on mistakes commonly made.

The options "none of the above" or "all of the above" are used in some tests. These can be helpful, but should be used sparingly.

Distracters should distract the uninformed, but they should not take the form of 'trick' questions that could mislead the knowledgeable trainee (for example, do not insert "not" into a correct response to make it a distracter).

■ Guess factor

The 'guess factor' with four alternative responses in a multiple-choice test would be 25%. The pass mark chosen for all selective-response questions should take this into account.

■ Scoring

In simple scoring of objective tests one mark may be allotted to each correct response and zero for a wrong or nil response.

A more sophisticated scoring technique entails awarding one mark for a correct response, zero for a nil response and minus one for an incorrect response. Where a multiple-choice test involves four alternatives, this means that a totally uninformed guess involves a 25% chance of gaining one mark and a 75% chance of losing one mark.

Scores can be weighted to reflect the relative importance of questions, or of sections of an evaluation.

Information Requested of Instructors Who Implement IMO Model Courses

Introduction

1 IMO model courses are periodically revised to take into account the changes which have taken place in relevant Conventions, resolutions and other matters affecting each course. To help IMO to improve the content of courses when they are revised, the assistance of all instructors who implement or participate in implementing courses is requested, whether the implementation is part of an IMO technical co-operation project or part of a Maritime Training Academy's regular programme.

Information requested and its format

2 To simplify their consolidation by IMO, the technical comments and suggestions for the improvement of model courses should follow the format that is outlined below. If no comments or suggestions are to be provided under a topic, please insert "no comment" against the item.

3 Please identify:

- .1 the course number and title;
- .2 the date and location of its implementation;
- .3 the approximate number of IMO model courses you have implemented to date; and
- .4 the approximate number of times you have implemented this particular model course.

4 In commenting on **Part A – Course Framework**, please comment on the items ('Scope', 'Objectives', etc.) in the order in which they appear in the course; in all cases, please indicate:

- .1 the number of participants who met the entry standards and the number who did not;
- .2 the course intake and, if the recommendations in 'Course intake limitations' were exceeded, the reasons for this and your observations on the effect of this on the quality of the course;
- .3 if the conditions under 'Staff requirements' were met; if not, please indicate the nature of the deficiency and give your observations of the effect of this on the quality of presentation of the course; and
- .4 any lack of equipment or facilities as compared with the recommendations under 'Teaching facilities and equipment' and your observations of the effect of this lack on the quality of presentation of the course.

5 In commenting on **Part B – Course Outline**, please bear in mind that minor variations in time allocations are inevitable. Major difficulties with allocations of time and any omissions or redundancies of subject areas should be briefly explained.

6 In commenting on **Part C – Detailed Teaching Syllabus**, please identify the specific learning objectives concerned by their paragraph numbers.

7 In commenting on **Part D – Instructor's Manual**, please clearly identify the section concerned. If the bibliography or the practical exercises are found to be unsatisfactory, please identify suitable alternative texts, as far as is possible, or outline alternative exercises, as appropriate.

8 Any further comments or suggestions you may have which fall outside the scope of the items listed above may be added at the end. In particular, your views on the usefulness of the course material to you in implementing the course would be appreciated, as would the contribution to IMO of any additional teaching material you found useful in implementing it.

Please address your comments to:

Maritime Safety Division
International Maritime Organization
4 Albert Embankment
London SE1 7SR
U.K.
[Telefax (+) 44 171 587 3210]

ANNEX 2

**DRAFT IMO MODEL COURSE ON SECURITY AWARENESS TRAINING FOR ALL
SEAFARERS**

Model Course X.XX

**SECURITY AWARENESS TRAINING FOR ALL
SEAFARERS**

IMO

ACKNOWLEDGEMENTS

This course in Security Awareness Training for all Seafarers is based on material developed by the United States Maritime Administration.

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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.

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 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 intent of IMO conventions and related recommendations.

■ Use of the model course

To use 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 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 that 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 entry requirements of the course. The instructor should therefore review these assessments and may need to re-allocate the time required to achieve each specific learning objective.

■ Lesson plans

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 for use in the course. Where no adjustment has been found necessary in the learning objectives 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 presentation of the material.

■ Presentation

The presentation of concepts and methodologies must be repeated in various ways until the instructor is satisfied that the trainee has attained each specific learning objective. The syllabus 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 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; and
- other reference material.

Thorough preparation is the key to successful implementation of the course. IMO has produced "Guidance on the Implementation of IMO Model Courses," which deals with this aspect in greater detail and is included as an attachment to this course.

Part A: Course Framework

■ Scope

This model course is intended to provide the knowledge required to enable personnel without designated security duties in connection with a Ship Security Plan (SSP) to enhance ship security in accordance with the requirements of Chapter XI-2 of SOLAS 74 as amended, the ISPS Code, and section A-VI/6-1 of the STCW Code, as amended.

■ Objective

Those who successfully complete this course should achieve the required standard of competence enabling them to contribute to the enhancement of maritime security through heightened awareness and the ability to recognize security threats and to respond appropriately. This knowledge shall include, but is not limited to:

1. the meaning and the consequential requirements of the different security levels;
2. knowledge of emergency procedures and contingency plans;
3. recognition and detection of weapons, dangerous substances, and devices;
4. recognition, on a non-discriminatory basis, of characteristics and behavioural patterns of persons who are likely to threaten security; and
5. techniques used to circumvent security measures.

■ Entry standards

It is assumed that those attending this course will be serving seafarers or other shipboard personnel who will not be assigned specific security duties in connection with the Ship Security Plan.

■ Course certificate, diploma or document

Documentary evidence should be issued to those who have successfully completed this course indicating that the holder has completed training in "Security Awareness" based on this model course.

■ Course delivery

The outcome of this course may be achieved through various methods, including classroom training, in-service training, distance learning, computer-based training or combinations of these methods.

■ Course intake limitations

The maximum number of trainees should depend on the facilities and equipment available, bearing in mind the aims and objectives of this course.

■ Staff requirements

The instructor in charge of the course should have adequate experience in maritime security matters and should have knowledge of the requirements of Chapter XI-2 of SOLAS 74 as amended, the ISPS Code, and security-related provisions of the STCW Code, as amended.

It is recommended that instructors should either have appropriate training in or be familiar with instructional techniques and training methods.

■ Teaching facilities and equipment

An ordinary classroom or similar meeting room with a blackboard or equivalent is sufficient for the lectures. In addition, when making use of audiovisual materials, it should be ensured that appropriate equipment is available. Finally, the use of shipboard environments (ships or mock-ups) for certain segments of the course may enhance the overall effectiveness of this training.

■ Teaching aids (A)

- A1 Instructor Manual (Part D of the course)
- A2 Audiovisual aids: video cassette player, TV, slide projector, overhead projector, etc.
- A3 Photographs, models, or other representations of various vessels and vessel parts to illustrate operational elements and security vulnerabilities.
- A4 Video cassette(s)
- A5 Distance learning package(s)
- A6 National legislative and regulatory references

■ Bibliography (B)

- B1 (2010). *Best Management Practices to Deter Piracy off the Coast of Somalia and in the Arabian Sea Area (BMP3)*. Edinburgh: Witherby Seamanship International.
- B2 Fernandez, L., & Merzer, M. (2003). *Jane's Crisis Communications Handbook*, (1st ed.). Alexandria: Jane's Information Group.
- B3 Hawkes, K.G. (1989). *Maritime Security*. Centreville: Cornell Maritime Press.
- B4 International Chamber of Shipping. (2003). *Maritime Security: Guidance for Ship Operators on the IMO International Ship and Port Facility Security Code*. London: ICS.

- B5 International Chamber of Shipping. (2003). *Model Ship Security Plan*. London: ICS.
- B6 International Chamber of Shipping/International Shipping Federation. (2004). *Pirates and Armed Robbers: A Master's Guide*. (4th ed.). London: Marisec Publications.
- B7 Sidell, F.R., et al. (2002). *Jane's Chem-Bio Handbook*. (2nd ed.). Alexandria: Jane's Information Group.
- B8 Sullivan, J.P., et al. (2002). *Jane's Unconventional Weapons Response Handbook*. (1st ed.). Alexandria: Jane's Information Group.
- B9 United States Coast Guard. (2002). *Risk-based Decision Making Guidelines*. PB2002-500115 Washington: NTIS.
- B10 United States Department of Transportation. Volpe National Transportation Systems Center. (1999). *Intermodal Cargo Transportation: Industry Best Security Practices*. Cambridge: Volpe Center.
- B11 Viollis, P., et al. (2002). *Jane's Workplace Security Handbook*. (1st ed.). Alexandria: Jane's Information Group.

■ IMO/ILO references (R)

- R1 International Maritime Organization. (2003). *International Ship & Port Facility Security (ISPS) Code, 2003 and December 2002 Amendments to SOLAS*. London: IMO. (IMO-I116E).
- R1.1 SOLAS Chapter XI-1
- R1.2 SOLAS Chapter XI-2
- R1.3 ISPS Code Part A
- R1.4 ISPS Code Part B
- R2 International Labour Organization. *Seafarers' Hours of Work and the Manning of Ships Convention, 1996*. (No. 180).
- R3 International Labour Organization. *Seafarers' Identity Documents Convention (Revised), 2003*. (No. 185).
- R4 International Maritime Organization. *Seafarers' Training, Certification, and Watchkeeping (STCW) Code, 2010*.
- R4.1 STCW Code Section A-VI/6
- R4.2 STCW Code Table A-VI/6-1
- R5 International Maritime Organization. (2009). "Guidance to Shipowners, Companies, Ship Operators, Shipmasters and Crews on Preventing and Suppressing Acts of Piracy and Armed Robbery against Ships." MSC/Circ.623/Rev.3
- R6 International Maritime Organization. (2009). "Guidance to Shipowners, Companies, Ship Operators, Shipmasters and Crews on Preventing and Suppressing Acts of Piracy and Armed Robbery against Ships." MSC/Circ.623/Rev.3

■ **Textbooks (T)**

T1 McNicholas, M. (2007). *Maritime Security: An Introduction*. Burlington: Butterworth-Heinemann.

Part B: Course Outline and Timetable

Course outline

Subject Area	Approximate Time (Hours)	
	Lecture	Practical
1 Introduction 1.1 Course overview 1.2 Competences to be achieved 1.3 Current security threats and patterns 1.4 Ship and port operations and conditions	0.75	
2 Maritime Security Policy 2.1 Awareness of relevant international conventions, codes and recommendations 2.2 Awareness of relevant government legislation and regulations 2.3 Definitions 2.4 Handling sensitive security-related information and communications	0.75	
3 Security Responsibilities 3.1 Contracting governments 3.2 The company 3.3 The ship 3.4 The port facility 3.5 Ship Security Officer 3.6 Company Security Officer 3.7 Port Facility Security Officer 3.8 Seafarers with designated security duties 3.9 Port facility personnel with designated security duties 3.10 Other personnel	0.5	
4 Threat Identification, Recognition, and Response 4.1 Recognition and detection of weapons, dangerous substances and devices 4.2 Recognition, on a non-discriminatory basis, of persons posing potential security risks 4.3 Techniques used to circumvent security measures	1.0	
5 Ship Security Actions 5.1 Actions required by different security levels 5.2 Reporting security incidents	0.5	
6 Emergency Preparedness, Drills, and Exercises 6.1 Awareness of contingency plans 6.2 Security drills and exercises	0.5	
Total:	4.0	

Course Timetable

Day/Period	1st Period (2.0 hours)	2nd Period (2.0 hours)
Day 1	<p>1 Introduction</p> <p>1.1 Course overview</p> <p>1.2 Competences to be achieved</p> <p>1.3 Current security threats and patterns</p> <p>1.4 Ship and port operations and conditions</p> <p>2 Maritime Security Policy</p> <p>2.1 Awareness of relevant international conventions, codes, and recommendations</p> <p>2.2 Awareness of relevant government legislation and regulations</p> <p>2.3 Definitions</p> <p>2.4 Handling sensitive security-related information and communications</p> <p>3 Security Responsibilities</p> <p>3.1 Contracting governments</p> <p>3.2 The company</p> <p>3.3 The ship</p> <p>3.4 The port facility</p> <p>3.5 Ship Security Officer</p> <p>3.6 Company Security Officer</p> <p>3.7 Port Facility Security Officer</p> <p>3.8 Seafarers with designated security duties</p> <p>3.9 Port facility personnel with designated security duties</p> <p>3.10 Other personnel</p>	<p>4 Threat Identification, Recognition, and Response</p> <p>4.1 Recognition and detection of weapons, dangerous substances and devices</p> <p>4.2 Recognition, on a non-discriminatory basis, of persons posing potential security risks</p> <p>4.3 Techniques used to circumvent security measures</p> <p>5 Ship Security Actions</p> <p>5.1 Actions required by different security levels</p> <p>5.2 Reporting security incidents</p> <p>6 Emergency Preparedness, Drills, and Exercises</p> <p>6.1 Awareness of contingency plans</p> <p>6.2 Security drills and exercises</p>

Part C: Detailed Teaching Syllabus

The detailed teaching syllabus has been written in learning objective format in which the objective describes what the trainee should be able to do to demonstrate that knowledge has been transferred. All objectives are understood to be prefixed by the words, "The expected learning outcome is that the trainee".

In order to assist the instructor, references are shown against the learning objectives to indicate IMO/ILO references and publications, additional technical material and teaching aids, which the instructor may wish to use when preparing course material. The material listed in the course framework has been used to structure the detailed teaching syllabus; in particular:

Teaching aids (indicated by A);
Bibliography (indicated by B); and
IMO/ILO references (indicated by R);

will provide valuable information to instructors. The abbreviations used are:

add.: addendum

app.: appendix

art.: article

ch.: chapter

encl.: enclosure

p.: page

pa.: paragraph

reg.: regulation

sect.: section

The following are examples of the use of references:

R1.2 reg.1 refers to regulation 1 of the December, 2002 Amendments to the 1974 SOLAS Convention;

Al sect.5 refers to training section 5 ("Security Equipment") in the guidance notes of the instructor manual.

■ Note

Throughout the course, safe working practices are to be clearly defined and emphasized with reference to current international requirements and regulations. It is expected that the institution implementing the course will insert references to national and/or regional requirements and regulations as necessary.

■ Competences

The competences to be demonstrated by candidates may be expressed as follows:

1. Contribute to the enhancement of maritime security through heightened awareness;
2. Recognition of security threats; and
3. Understanding of the need for and methods of maintaining security awareness and vigilance.

Knowledge, understanding and proficiency	IMO/ILO Reference	Bibliography	Teaching Aid
<p>5. Ship Security Actions (0.5 hour)</p> <p>5.1. Actions required by different security levels</p> <ul style="list-style-type: none"> .1 states the three security levels and the actions required for each level .2 identifies recommended actions in response to attacks and attempted attacks by pirates and armed robbers <p>5.2. Reporting security incidents</p> <ul style="list-style-type: none"> .1 summarizes the reporting requirements in case of a security incident, including protocols for reporting attacks and attempted attacks by pirates and armed robbers 	<p>R1.3 sect. 7</p> <p>R5</p> <p>R1.3 pa. 12.2.8</p> <p>R5</p>	<p>B1, B6</p>	<p>A1 sect. 5</p>
<p>6. Emergency Preparedness, Drills, and Exercises (0.5 hour)</p> <p>6.1. Awareness of contingency plans</p> <ul style="list-style-type: none"> .1 discusses action to take in case of a breach of security .2 discusses contingency plans for: <ul style="list-style-type: none"> ➤ hijacking ➤ bomb threat ➤ unidentified objects / explosives on ship ➤ damage to / destruction of facility ➤ piracy and armed robbery ➤ stowaways <p>6.2. Security drills and exercises</p> <ul style="list-style-type: none"> .1 demonstrates awareness of the requirements for, and importance of, conducting drills and exercises, including those relating to prevention and suppression of piracy and armed robbery against ships 	<p>R5</p> <p>R1.3 pa. 13.4</p> <p>R5</p>	<p>B3</p> <p>B1, B6</p> <p>B1, B6</p>	<p>A1 sect. 6</p>

Part D: Instructor Manual

The instructor manual provides guidance on the material that is to be presented during the course in Security Awareness. This manual reflects the views of the course developers with respect to methodology and organization as well as what they consider relevant and important in light of their experience as instructors. Although the guidance given should be of value initially, each instructor should develop his or her own methods and ideas, recognize and refine what is successful, and discard that which does not work satisfactorily.

The material has been arranged under the following six main headings:

- 1 Introduction
- 2 Maritime Security Policy
- 3 Security Responsibilities
- 4 Threat Identification, Recognition, and Response
- 5 Ship Security Actions
- 6 Emergency Preparedness, Drills, and Exercises

The course outline and timetable provide guidance on the time allocation for the course material, but the instructor is free to modify this if it is deemed necessary. The detailed teaching syllabus must be studied carefully and, where appropriate, lesson plans or lecture notes compiled.

Preparation and planning are the most important criteria in effectively presenting this course. Availability and proper use of course materials are also essential for maximum efficacy in conveying the subject to trainees. The capabilities and limitations of the facilities in use may dictate that the learning objectives be adjusted but it is suggested that this be kept to a minimum.

Where possible, lectures should be supported by written course materials, videos, and other media that allow the trainee to embrace the material more fully. It will be necessary to prepare material for use with overhead projectors or for distribution to trainees as handouts.

Guidance Notes

1 Introduction

1.1 Course overview

As with other IMO model courses, the starting point should be a brief statement of the purpose of the course, a short review of the timeline, an introduction of participants,

determination of knowledge and experience levels, and a brief description of the teaching facility.

1.2 Competences to be achieved

The aim of the course is stated, competences from Part C of the course are reviewed, and the outcome of the learning objectives is made clear; namely, that "the expected learning outcome is that the trainee" It should be noted that these same competences are found in Table A-VI/6-1 of the STCW Code along with methods for demonstrating competence and criteria for evaluating competence. Special attention should be given to the requirement therein for practical demonstrations of skill in conducting physical searches and non-intrusive inspections.

Instructors should emphasize that no one is being trained to fight or similarly respond to security threats but rather that trainees should be able to contribute to the enhancement of maritime security through heightened awareness and the ability to recognize security threats and to respond appropriately.

1.3 Current security threats and patterns

Current threats to maritime security should be summarized in order to provide a basis for understanding of the recent conventions and legislation in this area and to fully grasp the importance of the training provided by this course. Personnel receiving this training must clearly sense the reality of today's security issues, which include piracy, terrorism, contraband smuggling, cargo theft, and collateral damage. Some may have adopted a mindset that places the problem of security in the past or in such a remote corner that it appears distant or irrelevant. Before continuing on with the course this mindset should be identified and addressed.

Piracy and armed attacks continue to occur on an increasingly frequent basis. Armed robbery occurs mostly in port areas, whereas piracy, by definition, usually involves ships at sea. In fact, the United Nations Convention on the Law of the Sea, Article 101, defines piracy as any of the following acts: illegal acts of violence or detention or any act of depredation committed for private ends by the crew or the passengers of a private ship or private aircraft and directed on the high seas against another ship or aircraft or against persons or property on board such ship or aircraft. It also includes such acts against a ship, aircraft, person or property in a place outside of the jurisdiction of any State. The summarizing of statistics concerning piracy and armed robbery may assist trainees in understanding the magnitude and seriousness of these problems.

Terrorism usually involves violence, or the threat of violence, by extremist groups seeking to gain political objectives by malicious means. A terrorist group may hope to make a statement by using various types of bombs, making bomb threats or hijacking a ship. Increasingly, terrorists are acting in connection with extremist religious sects that promote suicidal behaviour.

Contraband smuggling, a criminal activity, may result in large financial loss to the ship owner whose ship is being used by the smugglers. Often, drugs are the commodity being smuggled and they may be brought on board in a number of creative ways such as in luggage, stores, on or in a person's body, or in electronic equipment. Weapons are also a

frequent item associated with smuggling. Like drugs, weapons, too, find their way on board in various ways, such as in cargo containers.

Cargo theft, an age-old problem, continues to plague the maritime industry and causes financial losses in staggering amounts. Prevention is normally the most effective method of dealing with this security threat. Although there may not be violence or political issues involved in most cargo theft cases, this matter remains high on the list of security threats and requires solutions discussed in this course. Instructors should convey that cargo theft is only one of the various threats to the security of cargo. Other such security threats should be discussed during this section of the course.

Collateral damage occurs when a nearby fire, explosion, or attack results in damage to a ship or facility. While the damage is sometimes unintended, the costs are nevertheless real. There are measures that may minimize the consequences of this type of damage.

1.4 Ship and port operations and conditions

This section of the course should provide trainees with a basic understanding of the larger context in which maritime operations occur. Awareness of the fundamentals of the complex transportation and logistics framework of the marine transportation system will enable students to better enhance maritime security. It is essential for students to have a basic understanding of the general patterns and mechanisms of cargo and passenger movement through international and intermodal transportation chains. The operational interface between maritime and other modes of transportation is a central component of this segment of the course. Trainees should also be exposed to the fundamentals of cargo tracking and related information systems in the context of security.

2 Maritime Security Policy

2.1 Awareness of relevant international conventions, codes and recommendations

Trainees should acquire a basic appreciation for the attempts by international bodies to minimize, stop, or otherwise control threats to security in maritime transportation. The International Maritime Organization (IMO) has adopted a number of resolutions and conventions to this end. For example, Resolution A.545(13)--Measures To Prevent Acts Of Piracy And Armed Robbery Against Ships was signed in 1983. In 1985 came IMO Resolution A.584 (14)--Measures To Prevent Unlawful Acts Which Threaten Safety Of Ships And Security Of Passengers (this was later reviewed in November of 2001 with IMO Resolution A.924(22)). Then in 1986 the IMO approved MSC/Circ.443--Measures To Prevent Unlawful Acts Against Passengers And Crew On Board Ships. In 1988, the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (SUA) treaties aimed at ensuring that appropriate judicial action is taken against persons committing unlawful acts against ships. Unlawful acts would include the seizure of ships by force, acts of violence against persons on board ships, and placing devices on board a ship which are likely to destroy or damage it. The convention obliges contracting governments either to extradite or prosecute alleged offenders. The SUA came into effect on March 1, 1992.

Following the tragic events of September 11, 2001 the twenty-second session of the IMO, in November of 2001, unanimously agreed to the creation of new security regulations. IMO approved the development of new measures relating to the security of ships and of port

facilities for adoption by a Conference of Contracting Governments to the International Convention for the Safety of Life at Sea, 1974 in December of 2002 (the Diplomatic Conference). This timetable of little more than a year represents a landmark achievement for the IMO. It provides a clear indication of the gravity of the situation as well as the intention to protect world shipping against security incidents and threats.

The meeting of the Diplomatic Conference in December of 2002 resulted in amendments to SOLAS 74. These amendments enter into force on July 1, 2004. A brief summary of these amendments should be carried out with mention of changes to Chapter V but with emphasis on the changes to Chapter XI, Regulations 3 and 5 and the new Chapter XI-2 Regulations 1-13 and the ISPS Code.

Trainees should be familiarized with the security-related provisions contained in the 2010 amendments to the STCW Code. They should also be made aware of IMO guidance concerning the prevention and suppression of piracy and armed robbery against ships. Of particular interest in the latter case will be MSC/Circ.623/Rev.3 ("Guidance to Shipowners, Companies, Ship Operators, Shipmasters and Crews on Preventing and Suppressing Acts of Piracy and Armed Robbery against Ships").

2.2 Awareness of relevant government legislation and regulations

It will be helpful for trainees to understand that some governments have acted on a national level to produce legislation and/or regulations concerned with measures to enhance maritime security. Instructors may wish to use examples developed by their own nations and/or those of other countries to illustrate the focus of this section of the course.

2.3 Definitions

Trainees will need a working knowledge of several terms found in SOLAS Chapter XI-2 Regulation 1, in the ISPS Code Part A Section 2, and in the *Best Management Practices to Deter Piracy off the Coast of Somalia and in the Arabian Sea Area (BMP3)*. These terms may well need clarification by an experienced instructor in order for trainees to reach the necessary level of understanding. For instance, it might require emphasis or other clarification by the instructor to establish that the Ship Security Officer is a person on board the ship and in that sense it may be impossible for a Company Security Officer to also act as the Ship Security Officer.

2.4 Handling sensitive security-related information and communications

Trainees should understand that certain information and communications will be considered security sensitive and that the level of sensitivity may change, as do levels of security 1, 2, and 3. Seemingly benign conversations, therefore, may result in disastrous consequences. All personnel will need to appreciate the risk of security leaks through communication by improper methods or to the wrong persons.

3 Security Responsibilities

This section is intended to give trainees basic knowledge of the elements of the maritime security system conceived of by the IMO and to show how the various entities should work together to form an efficient and effective whole.

3.1 Contracting governments

SOLAS Chapters XI-1 and XI-2 discuss the roles of the contracting governments and their obligations in the overall scheme to enhance maritime security. A basic understanding of this information will help trainees comprehend how and why their own governments have acted and how they may experience the port state control exercised by another government.

3.2 The company

The company is defined by SOLAS Chapter XI-1 and is given numerous obligations under Chapter XI-2 and the ISPS Code from Continuous Synopsis Records to the maintenance of the International Ship Security Certificate. Trainees will benefit greatly from a clear understanding of the role of the company and the support that they should expect from it.

3.3 The ship

The term ship as used here means a ship to which Chapter XI of SOLAS applies. Various segments of Chapter XI and the ISPS Code discuss the persons, activities, plans, documentation and so forth that a ship will be exposed to in a security context. All trainees will need to understand these requirements as they relate to this important cornerstone of a maritime transportation system.

3.4 The port facility

The port facility is defined in SOLAS Chapter XI-2 Regulation 1 part 1.9 and is the location where a ship/port interface takes place. As such, numerous duties and activities are assigned to the port facility. All trainees should understand the role of the port facility in maintaining the security of the maritime transportation system.

3.5 – 3.10 Ship Security Officer, Company Security Officer, Port Facility Security Officer, Seafarers with Designated Security Duties, Port Facility Personnel with Designated Security Duties, and Other Personnel

Trainees should understand the role of each of these various persons and know what to expect from each in terms of authority and responsibility. The ISPS Code Parts A and B clearly delineate the functions, duties, and training requirements for each of these categories of personnel. In the end these are the very people that will make the security plans work and will recognize areas for improvement. They will each need to appreciate their own role as well as that played by the others. Trainees should also understand the role of personnel in

organizations that are involved in responding to attacks and attempted attacks by pirates and armed robbers.

4 Threat Identification, Recognition, and Response

4.1 Recognition and detection of weapons, dangerous substances and devices

The focus of this segment of the course is on the characteristics and potential effects of prohibited weapons; explosives; chemical, biological, and radiological devices; substances and compounds that pose a hazard to personnel, ships, and facilities, and other related topics.

4.2 Recognition, on a non-discriminatory basis, of persons posing potential security risks

Instructors should explain suspicious patterns of behaviour, while emphasizing the importance of avoiding racial profiling and ethnic stereotyping. Examples of suspicious behaviours include:

- Unknown persons photographing vessels or facilities.
- Unknown persons attempting to gain access to vessels or facilities.
- Individuals establishing businesses or roadside food stands either adjacent to or in proximity to facilities.
- Unknown persons loitering in the vicinity of ships or port facilities for extended periods of time.
- Unknown persons telephoning facilities to ascertain security, personnel, or standard operating procedures.
- Vehicles with personnel in them loitering and perhaps taking photographs or creating diagrams of vessels or facilities.
- Small boats with personnel on board loitering and perhaps taking photographs or creating diagrams of vessels or facilities.
- General aviation aircraft operating in proximity to vessels or facilities.
- Persons who may be carrying bombs or participating in suicide squad activities.
- Unknown persons attempting to gain information about vessels or facilities by walking up to personnel or their families and engaging them in a conversation.
- Vendors attempting to sell merchandise.
- Workmen trying to gain access to facilities to repair, replace, service, or install equipment.

- E-mails attempting to obtain information regarding the facility, personnel, or standard operating procedures.
- Package drop-offs/attempted drop-offs.
- Anti-national sentiments being expressed by employees or vendors.
- Anti-national pamphlets or flyers distributed to employees or placed on windshields in parking lots.
- Out-of-the-ordinary phone calls.
- Recreational boaters or persons aboard refugee craft posing as mariners in distress to attract assistance from other vessels.
- High-speed skiffs approaching the ship on an intercepting course.
- Small craft containing ladders, grappling hooks, and other potential boarding devices.
- The presence of "mother ships" in the vicinity of one or more small craft.

4.3 Techniques used to circumvent security measures

Trainees should be cautioned that no security equipment or measure is infallible. They should be apprised of the known techniques that can be employed to evade security systems and controls, such as the disabling of alarm systems, picking of locks, jamming of radio signals, etc.

The known methods employed by pirates and armed robbers to board ships and undertake attacks should be elaborated upon. The *Best Management Practices to Deter Piracy off the Coast of Somalia and in the Arabian Sea Area (BMP3)* provides a helpful description of typical pirate attacks that may serve as a foundation for this discussion.

5 Ship Security Actions

Parts A and B of the ISPS Code, IMO guidance documents, and other resources listed in Part A will be helpful in organizing material to be conveyed in this section of the course. Instructors should indicate that this section of the course is where ideas, plans, and preparation turn into actions and procedures.

5.1 Actions required by different security levels

The instructor should provide basic knowledge of maritime security levels and the different types of security measures that should be considered for ships at sea and those in port as they respond to security incidents. The importance of familiarization training involving the Ship Security Plan particular to each ship should be emphasized.

Trainees should be familiarized with the types of actions required in case of attacks and attempted attacks by pirates and armed robbers. Noting that procedures will vary depending

on the construction of the vessel, the composition of the crew, and other factors, trainees should understand recommended actions as suggested in MSC/Circ.623/Rev.3 ("Guidance to Shipowners, Companies, Ship Operators, Shipmasters and Crews on Preventing and Suppressing Acts of Piracy and Armed Robbery against Ships") and in the *Best Management Practices to Deter Piracy off the Coast of Somalia and in the Arabian Sea Area (BMP3)*.

5.2 Reporting security incidents

Trainees will appreciate that all security incidents must be reported in accordance with specific reporting requirements. It may be helpful for instructors to provide several sample security incidents and have the class or individuals explain how they would go about reporting these incidents. Trainees should be made aware of protocols specifically developed for reporting piracy and armed robbery against ships.

6 Emergency Preparedness, Drills, and Exercises

6.1 Awareness of contingency plans

This portion of the course should provide basic knowledge of plans for a variety of contingencies associated with terrorism and other criminal activities that may arise in the maritime setting. Possible responses in the case of bomb threats, explosions, piracy, armed robbery, hijackings, and similar events should be discussed.

6.2 Security drills and exercises

It should be conveyed to course participants that the objective of drills and exercises is to ensure that shipboard personnel are proficient in all assigned security duties at all security levels and in the identification of any security-related deficiencies that need to be addressed.

Trainees should learn that effective implementation of the provisions of the Ship Security Plan requires that drills be conducted at least once every three months. In addition, in cases where more than 25 percent of the ship's personnel have been changed, at any one time, with personnel that have not previously participated in any drill on that ship within the last 3 months, a drill should be conducted within one week of the change. These drills should test individual elements of the plan such as:

- damage to, or destruction of, the ship or of a port facility, e.g., by explosive devices, arson, sabotage or vandalism;
- hijacking or seizure of the ship or of persons on board;
- attacks by armed robbers;
- tampering with cargo, essential ship equipment, systems, or ship stores;
- unauthorized access or use, including presence of stowaways;
- smuggling weapons or equipment, including weapons of mass destruction;

- use of the ship to carry persons intending to cause a security incident, or their equipment;
- use of the ship itself as a weapon or as a means to cause damage or destruction;
- attacks from seaward while at berth or at anchor; and
- attacks while at sea.

Various types of exercises involving participation of shipboard personnel should be carried out at least once each calendar year with no more than 18 months between the exercises. These exercises should test communications, coordination, resource availability, and response. These exercises may be:

- full scale or live;
- tabletop simulation or seminar; or
- combined with other exercises held such as search and rescue or emergency response exercises.

Part E: Evaluation

■ Introduction

The effectiveness of any evaluation depends on the accuracy of the description of what is to be measured.

The learning objectives that are used in the detailed teaching syllabus will provide a sound base for the construction of suitable tests for evaluating trainee progress.

■ Method of evaluation

The methods chosen to carry out an evaluation will depend upon what the trainee is expected to achieve in terms of knowing, comprehending and applying the course content.

The methods used can range from a simple question-and-answer discussion with the trainees (either individually or as a group) to prepared tests requiring the selection of correct or best responses from given alternatives, the correct matching of given items, the supply of short answers or the supply of more extensive written responses to prepared questions.

Where the course content is aimed at the acquisition of practical skills, the test would involve a practical demonstration by the trainee making use of appropriate equipment, tools, etc. The responses demanded may therefore consist of:

- the recall of facts or information, by viva-voce or objective tests
- the practical demonstration of an attained skill
- the oral or written description of procedures or activities
- the identification and use of data from sketches, drawings, maps, charts, etc.
- carrying out calculations to solve numerical problems
- the writing of an essay or report.

■ Validity

The evaluation must be based on clearly defined objectives, and it must truly represent what is to be measured. There must be a reasonable balance between the subject topics involved and also in the testing of trainees' KNOWLEDGE, COMPREHENSION and APPLICATION of concepts.

The time allocated for the trainee to provide a response is very important. Each question or task must be properly tested and validated before it is used to ensure that the test will provide a fair and valid evaluation.

■ Reliability

To be reliable, an evaluation procedure should produce reasonably consistent results no matter which set of papers or version of the test is used.

■ Subjective testing

Traditional methods of evaluation require the trainee to demonstrate what has been learned by stating or writing formal answers to questions.

Such evaluation is subjective in that it invariably depends upon the judgement of the evaluator. Different evaluators can produce quite different scores when marking the same paper or evaluating oral answers.

■ Objective testing

A variety of objective tests have been developed over the years. Their common feature is that the evaluation does not require a judgement by the evaluator. The response is either right or wrong.

One type of objective test involves supplying an answer, generally a single word, to complete the missing portion of a sentence. Another involves supplying a short answer of two or three words to a question. Such tests are known as 'completion tests' and 'short answer tests'.

Another form of objective testing consists of 'selective response tests' in which the correct, or best, response must be selected from given alternatives. Such tests may consist of 'matching tests', in which items contained in two separate lists must be matched, or they may be of the true/false type or of the multiple-choice type.

The most flexible form of objective test is the multiple-choice test, which presents the trainee with a problem and a list of alternative solutions, from which he must select the most appropriate.

■ Distracters

The incorrect alternatives in multiple-choice questions are called 'distracters', because their purpose is to distract the uninformed trainee from the correct response. The distracter must be realistic and should be based on misconceptions commonly held, or on mistakes commonly made.

The options "none of the above" or "all of the above" are used in some tests. These can be helpful, but should be used sparingly.

Distracters should distract the uninformed, but they should not take the form of 'trick' questions that could mislead the knowledgeable trainee (for example, do not insert "not" into a correct response to make it a distracter).

■ Guess factor

The 'guess factor' with four alternative responses in a multiple-choice test would be 25%. The pass mark chosen for all selective-response questions should take this into account.

■ Scoring

In simple scoring of objective tests one mark may be allotted to each correct response and zero for a wrong or nil response.

A more sophisticated scoring technique entails awarding one mark for a correct response, zero for a nil response and minus one for an incorrect response. Where a multiple-choice test involves four alternatives, this means that a totally uninformed guess involves a 25% chance of gaining one mark and a 75% chance of losing one mark.

Scores can be weighted to reflect the relative importance of questions, or of sections of an evaluation.

Information Requested of Instructors Who Implement IMO Model Courses

Introduction

1 IMO model courses are periodically revised to take into account the changes which have taken place in relevant Conventions, resolutions and other matters affecting each course. To help IMO to improve the content of courses when they are revised, the assistance of all instructors who implement or participate in implementing courses is requested, whether the implementation is part of an IMO technical co-operation project or part of a Maritime Training Academy's regular programme.

Information requested and its format

2 To simplify their consolidation by IMO, the technical comments and suggestions for the improvement of model courses should follow the format that is outlined below. If no comments or suggestions are to be provided under a topic, please insert "no comment" against the item.

3 Please identify:

- .1 the course number and title;
- .2 the date and location of its implementation;
- .3 the approximate number of IMO model courses you have implemented to date; and
- .4 the approximate number of times you have implemented this particular model course.

4 In commenting on **Part A – Course Framework**, please comment on the items ('Scope', 'Objectives', etc.) in the order in which they appear in the course; in all cases, please indicate:

- .1 the number of participants who met the entry standards and the number who did not;
- .2 the course intake and, if the recommendations in 'Course intake limitations' were exceeded, the reasons for this and your observations on the effect of this on the quality of the course;
- .3 if the conditions under 'Staff requirements' were met; if not, please indicate the nature of the deficiency and give your observations of the effect of this on the quality of presentation of the course; and
- .4 any lack of equipment or facilities as compared with the recommendations under 'Teaching facilities and equipment' and your observations of the effect of this lack on the quality of presentation of the course.

5 In commenting on **Part B – Course Outline**, please bear in mind that minor variations in time allocations are inevitable. Major difficulties with allocations of time and any omissions or redundancies of subject areas should be briefly explained.

6 In commenting on **Part C – Detailed Teaching Syllabus**, please identify the specific learning objectives concerned by their paragraph numbers.

7 In commenting on **Part D – Instructor's Manual**, please clearly identify the section concerned. If the bibliography or the practical exercises are found to be unsatisfactory, please identify suitable alternative texts, as far as is possible, or outline alternative exercises, as appropriate.

8 Any further comments or suggestions you may have which fall outside the scope of the items listed above may be added at the end. In particular, your views on the usefulness of the course material to you in implementing the course would be appreciated, as would the contribution to IMO of any additional teaching material you found useful in implementing it.

Please address your comments to:

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