

CONFERENCE OF PARTIES TO THE
INTERNATIONAL CONVENTION ON
STANDARDS OF TRAINING,
CERTIFICATION AND WATCHKEEPING
FOR SEAFARERS, 1978
Agenda items 6 and 7

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**CONSIDERATION OF THE DRAFT AMENDMENTS TO THE INTERNATIONAL
CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND
WATCHKEEPING FOR SEAFARERS, 1978**

**CONSIDERATION OF THE DRAFT AMENDMENTS TO THE SEAFARERS'
TRAINING, CERTIFICATION AND WATCHKEEPING (STCW) CODE**

Electro-technical Officer

Submitted by the Islamic Republic of Iran

SUMMARY

<i>Executive summary:</i>	This document contains proposed amendments to (a) regulation III/6 and section A-III/6 in order to clarify that onboard training requirements are applicable only to the 12 months approved seagoing service route and, provides linkage between mentioned regulation and chapter VI of the Convention and STCW Code and, (b) section B-III/6 in order to provide guidance regarding the onboard training for consistency with sections B-II/1 and B-V/1
<i>Strategic direction:</i>	5
<i>High-level action:</i>	5.2
<i>Planned output:</i>	5.2.2.1
<i>Action to be taken:</i>	Paragraph 11
<i>Related documents:</i>	STCW/CONF.2/3, STCW/CONF.2/4 and STCW/CONF.2/5

Background

1 MSC 86 approved, in principle, the preliminary draft revised text of the STCW Convention and Code, as set out in annexes 1 to 3 to document STW 40/14 and, authorized STW 41 to finalize the draft revised text of amendments with a view to their circulation by the Secretary-General for consideration by the Diplomatic Conference.

2 STW 41 approved the draft amendments to the STCW Convention and Code, as set out in annexes 1 to 3 to document STW 41/16, which are submitted under documents STCW/CONF.2/3, STCW/CONF.2/4 and STCW/CONF.2/5 to the Conference of Parties to the STCW Convention for consideration with a view to adoption.

Observations

3 As per the requirements of paragraph 2.2 of regulations II/1 and III/1 the seagoing service of those candidates that follow the shorter route (12 months), shall include an onboard training which meets the requirements of sections A-II/1 and A-III/1 respectively.

4 As per requirements of section A-II/1 and in respect of the approved seagoing service, only those candidates who choose to follow the shorter route (12 months) should complete onboard training in accordance with the provisions of paragraph 6 therein.

5 Those candidates are required to follow an approved programme of onboard training which ensures that, during the required period of seagoing service, they receive systematic practical training and experience in the tasks, duties and responsibilities of an officer in charge of a navigational watch, taking into account the guidance given in section B-II/1. The guidance in respect of the onboard training is set out in paragraphs 1 to 18 of section B-II/1. (STCW/CONF.2/5, annex, pages 50 to 55)

6 The provisions of the section A-III/6, paragraph 2 requires that every candidate for certification as electro-technical officer shall follow an approved programme of onboard training. (STCW/CONF.2/4, annex, page 121)

7 Based on a proposal from the Islamic Republic of Iran, the STW 41 agreed that there was a need to include a new competence in tables A-II/1, A-II/3 and A-III/1 in order to address basic safety training (STW 41/16, paragraphs 7.2.27 and 7.3.10) and consequently, the basic safety training competence added to the mentioned tables (STCW/CONF.2/4, annex, pages 48, 77 and 100).

Discussions and proposals

8 Considering above paragraphs 3 to 6 it can be seen that there is an inconsistency between provisions of regulations II/1 and III/1 with regulation III/6 in respect of onboard training requirements. In addition, there is also an inconsistency between provisions of section A-II/1, paragraph 6 and section A-III/6, paragraph 2 in respect of the scope of application of onboard training requirements since, requirements of section A-II/1, paragraph 6 is only applicable to those candidates who choose to follow the shorter route whereas, requirements of section A-III/6, paragraph 2 is applicable to every candidates.

9 Furthermore, since it is not clear that meeting the requirements of section A-VI/1, paragraph 2 is included in the qualifications for certificates of competency issued under regulation III/6 to electro-technical officers and, taking into account that:

- .1 meeting the standard of competence specified in section A-VI/1, paragraph 2 (basic training) seems essential as required underpinning knowledge before candidates can participate in survival craft and rescue boats, advanced fire fighting and medical first aid training courses;
- .2 meeting the proficiencies in survival craft and rescue boats, advanced fire-fighting and medical first aid is pre-requirement for certification as an electro-technical officer; and
- .3 electro-technical officers could have designated safety and/or pollution-prevention duties while on board and, hence should comply with the provisions of sections A-VI/1, paragraph 2;

therefore, different interpretations arise in that basic training is a pre-requisite for certification in survival craft and rescue boats, advanced fire-fighting and medical first aid trainings. On some occasions electro-technical officers could be asked to provide valid basic training documentary evidence, in addition to their certificates of competency, whereas in other cases they may not be required to provide such documentary evidence.

10 In light of above and in order to:

- .1 provide harmonization with regulations II/1 and III/1 in respect of onboard training requirements and, clarify that the shorter route (12 months combined workshop skill training and approved seagoing service) includes onboard training;
- .2 clarify that basic training is a pre-requisite for certification under regulation III/6 (for harmonization with regulations II/1, II/3 and III/1);
- .3 provide clarifications that it is not necessary for electro-technical officers to carry certificates in "basic training", "survival craft and rescue boats other than fast rescue boats", "advanced fire-fighting" and "medical first aid" in addition to their certificates of competency (similar to masters, deck officers and engineer officers);
- .4 prevent introduction of inconsistency between sections A-II/1 and A-III/6 in respect of the scope of the application of onboard training requirements;
- .5 clarify that the onboard training requirements set out in section A-III/6 is only applicable to those candidates who choose the shorter route (12 months combined workshop skill training and approved seagoing service);
- .6 be consistent with sections B-II/1 and B-V/1 (in respect of providing onboard training guidance); and
- .7 ensure that uniform criteria is used for onboard training internationally by providing guidance regarding onboard training,

therefore, it is proposed that draft texts of regulation III/6 and sections A-III/6 and B-III/6 be amended as set out in annexes 1, 2 and 3 to this document.

Action requested of the Conference

11 The Conference is invited to consider the information provided and take action as appropriate.

ANNEX 1

**DRAFT AMENDMENTS TO THE INTERNATIONAL CONVENTION ON
STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR
SEAFARERS, 1978, AS AMENDED**

Note: The draft amended text of the STCW Convention (STCW/CONF.2/3, annex, page 24) has been used as the basic text. The proposed new text is shown *shaded* and proposed deleted text is shown as *strikethrough*.

Regulation III/6

Mandatory minimum requirements for certification of electro-technical officers

1 Every electro-technical officer serving on a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more shall hold a certificate of competency.

2 Every candidate for certification shall:

- .1 be not less than 18 years of age;
- .2 have completed not less than 12 months of combined workshop skills training and approved seagoing service of which not less than 6 months will be seagoing service as part of an approved training programme which *includes onboard training that* meets the requirements of section A-III/6 of the STCW Code and is documented in an approved training record book, or otherwise not less than 36 months of combined workshop skills training and approved seagoing service of which not less than 30 months will be seagoing service in the engine department; ~~and~~
- .3 have completed approved education and training and meet the standards of competence specified in section A-III/6 of the STCW Code; *and*
- .4 meet the standards of competence specified in section A-VI/1, paragraph 2, section A-VI/2, paragraphs 1 to 4, section A-VI/3, paragraphs 1 to 4 and section A-VI/4, paragraphs 1 to 3 of the STCW Code.*

3 Every Party shall compare the standards of competence which it required of electro-technical officers for certificates issued before **[date of entry into force]** with those specified for the certificate in section A-III/6 of the STCW Code, and shall determine the need for requiring those personnel to update their qualifications.

4 Seafarers may be considered by the Party to have met the requirements of this regulation if they have served in a relevant capacity on board a ship for a period of not less than 12 months within the last 60 months preceding the entry into force of this regulation for that Party and meet the standards of competence specified in section A-III/6 of the STCW Code.

5 Notwithstanding the above requirements of paragraph 1 to 4, a suitably qualified person may be considered by a Party to be able to perform certain functions of section A-III/6.

ANNEX 2

**DRAFT AMENDMENTS TO PART A OF THE SEAFARERS' TRAINING,
CERTIFICATION AND WATCHKEEPING (STCW) CODE**

Note: *The draft amended text of the STCW Code (STCW/CONF.2/4, annex) has been used as the basic text. The proposed new text is shown **shaded** and proposed deleted text is shown as ~~strikethrough~~.*

Section A-III/6

Mandatory minimum requirements for certification of electro-technical officers

Training

1 The education and training required by paragraph 2.3 of regulation III/6 shall include training in electronic and electrical workshop skills relevant to the duties of **an** electro-technical officer.

Onboard training

2 Every candidate for certification as electro-technical officer **whose seagoing service, in accordance with paragraph 2.2 of regulation III/6, forms part of a training programme approved as meeting the requirements of this section** shall follow an approved programme of onboard training which:

- .1 ensures that, during the required period of seagoing service, the candidate receives systematic practical training and experience in the tasks, duties and responsibilities of an electro-technical officer, **taking into account the guidance given in section B-III/6 of this code;**
- .2 is closely supervised and monitored by qualified and certificated officers aboard the ships in which the approved seagoing service is performed; and
- .3 is adequately documented in a training record book.

Standard of competence

3 Every candidate for certification as electro-technical officer shall be required to demonstrate the ability to undertake the tasks, duties and responsibilities listed in column 1 of table A-III/6.

4 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-III/6 and it shall take into account the guidance given in part B of this Code.

5 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence tabulated in columns 3 and 4 of table A-III/6.

Table A-III/6

Specification of minimum standards of competence for electro-technical officers

Function: Controlling the operation of the ship and care for persons on board at operational level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Organize and manage subordinate crew	A knowledge of personnel management, organization and training on board ships A knowledge of international maritime conventions and recommendations, and related national legislation	Examination and assessment of evidence obtained from approved in-service training and experience	The crew are allocated duties and informed of expected standards of work and behaviour in a manner appropriate to the individuals concerned Training objectives and activities are based on an assessment of current competence and capabilities and operational requirements
Ensure compliance with pollution-prevention requirements	<i>Prevention of pollution of the marine environment</i> Knowledge of the precautions to be taken to prevent pollution of the marine environment Anti-pollution procedures and all associated equipment	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training ship experience	Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed
Contribute to the safety of personnel and ship	Knowledge of personal survival techniques Knowledge of fire prevention and ability to fight and extinguishing fires Knowledge of elementary first aid Knowledge of personal safety and social responsibilities	Assessment of evidence obtained from approved trainings and experiences as set out in section A-VI/1, paragraph 2	Appropriate safety and protective equipment is correctly used Procedures and safe working practices designed to safeguard personnel and the ship are observed at all times Procedures designed to safeguard the environment are observed at all times Initial and follow-up action on becoming aware of an emergency conforms with

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
			established emergency response procedures
Prevent, control and fight fire on board	<i>Fire prevention and fire-fighting appliances</i> Knowledge of fire prevention Ability to organize fire drills Knowledge of classes and chemistry of fire Knowledge of fire-fighting systems Knowledge of Action to be taken in the event of fire, including fires involving oil systems	Assessment of evidence obtained from approved fire-fighting training and experience as set out in section A-VI/3, paragraphs 1 to 3	The type and scale of the problem is promptly identified and initial actions conform with the emergency procedure and contingency plans for the ship Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly The order of priority, and the levels and time-scales of making reports and informing personnel on board, are relevant to the nature of the emergency and reflect the urgency of the problem
Operate life-saving appliances	Ability to organize abandon ship drills and knowledge of the operation of survival craft and rescue boats, their launching appliances and arrangements, and their equipment, including radio life-saving appliances, satellite EPIRBs, SARTs, immersion suits and thermal protective aids Knowledge of survival at sea techniques	Assessment of evidence obtained from approved training and experience as set out in section A-VI/2, paragraphs 1 to 4	Actions in responding to abandon ship and survival situations are appropriate to the prevailing circumstances and conditions and comply with accepted safety practices and standards
Apply medical first aid on board ship	Practical application of medical guides and advice by radio, including the ability to take effective action based on such	Assessment of evidence obtained from approved training as set out in section A-VI/4, paragraphs 1 to 3	Identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimizes immediate threat

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	knowledge in the case of accidents or illnesses that are likely to occur on board ship		to life

ANNEX 3

**DRAFT AMENDMENTS TO PART B OF THE SEAFARERS' TRAINING,
CERTIFICATION AND WATCHKEEPING (STCW) CODE**

Note: *The draft amended text of the STCW Code (STCW/CONF.2/5, annex, page 58) has been used as the basic text. The proposed new text is shown shaded.*

Section B-III/6

Guidance regarding training and certification for electro-technical officers

Training

1 Every candidate for certification as electro-technical officer should have completed a planned and structured programme of training designed to assist a prospective officer to achieve the standard of competence in accordance with table A-III/6.

2 Training in workshop skills ashore can be carried out in a training institution or approved workshop.

3 In addition to the requirements stated in table A-III/6 of this Code, Parties are encouraged to take into account resolution A.702(17) concerning radio maintenance guidelines for the global maritime distress and safety system within their training programmes.

4 The structure of the programme of training should be set out in a training plan which clearly expresses, for all parties involved, the objectives of each stage of training onboard and ashore. It is important that the prospective officer, tutors, ships' staff and company personnel are clear about the competences which are to be achieved at the end of the programme and how they are to be achieved through a combination of education, training and practical experience onboard and ashore.

5 The mandatory periods of seagoing service are of prime importance in learning the job of being an electro-technical officer and in achieving the overall standard of competence required. Properly planned and structured, the periods of seagoing service will enable prospective officers to acquire and practice skills and will offer opportunities for competences achieved to be demonstrated and assessed.

6 Where the seagoing service forms part of an approved training programme, the following principles should be observed:

.1 The programme of onboard training should be an integral part of the overall training plan;

.2 The programme of onboard training should be managed and co-ordinated by the company which manages the ship on which the seagoing service is performed;

.3 The prospective officer should be provided with a training record book^{*} to enable a comprehensive record of practical training and experience at sea to be maintained. The training record book should be laid out in such a way that it can

^{*} The relevant IMO Model Course may be of assistance in the preparation of training record books.

provide detailed information about the tasks and duties which should be undertaken and the progress towards their completion. Duly completed, the record book will provide unique evidence that a structured programme of onboard training has been completed which can be taken into account in the process of evaluating competence for the issue of a certificate;

.4 At all times, the prospective officer should be aware of two identifiable individuals who are immediately responsible for the management of the programme of onboard training. The first of these is a qualified seagoing officer, referred to as the “shipboard training officer”, who, under the authority of the master, should organize and supervise the programme of training for the duration of each voyage. The second should be a person nominated by the company, referred to as the “company training officer”, who should have an overall responsibility for the training programme and for co-ordination with colleges and training institutions; and

.5 The Company should ensure that appropriate periods are set aside for completion of the programme of onboard training within the normal operational requirements of the ship.

Roles and responsibilities

7 The following section summarizes the roles and responsibilities of those individuals involved in organizing and conducting onboard training:

.1 The company training officer should be responsible for:

.1.1 overall administration of the programme of training,

.1.2 monitoring the progress of the prospective officer throughout, and

.1.3 issuing guidance as required and ensuring that all concerned with the training programme play their parts.

.2 The shipboard training officer should be responsible for:

.2.1 organizing the programme of practical training at sea,

.2.2 ensuring, in a supervisory capacity, that the training record book is properly maintained and that all other requirements are fulfilled, and

.2.3 making sure, so far as is practicable, that the time the prospective officer spends on board is as useful as possible in terms of training and experience, and is consistent with the objectives of the training programme, the progress of training and the operational constraints of the ship.

.3 The master’s responsibilities should be to:

.3.1 provide the link between the shipboard training officer and the company training officer ashore,

.3.2 allocate the chief engineer officer to fulfil the role of continuity if the shipboard training officer is relieved during the voyage, and

.3.3 ensure that all concerned are effectively carrying out the onboard training programme.

.4 The prospective officer's responsibilities should be to:

.4.1 follow diligently the programme of training as laid down,

.4.2 make the most of the opportunities presented, be they in or outside working hours, and

.4.3 keep the training record book up to date and ensure that it is available at all times for scrutiny.

Induction

8 At the beginning of the programme and at the start of each voyage on a different ship, prospective officers should be given full information and guidance as to what is expected of them and how the training programme is to be organized. Induction presents the opportunity to brief prospective officers about important aspects of the tasks they will be undertaking, with particular regard to safe working practices and protection of the marine environment.

Shipboard programme of training

9 The training record book should contain, amongst other things, a number of training tasks or duties which should be undertaken as part of the approved programme of onboard training. Such tasks and duties should relate to at least the maintenance and repair of:

.1 engine room machineries and control systems;

.2 navigation bridge equipment and control systems;

.3 deck and cargo handling equipment and control systems;

.4 ship hotel and refrigeration equipment and control systems;

.5 ship alarm and monitoring systems;

.6 ship power generation and distribution network; and

.7 ship smoke/fire detection system.

10 The performance of the prospective officer in each of the tasks and duties, itemized in the training record book, should be initialled by a qualified officer when, in the opinion of the officer concerned, a prospective officer has achieved a satisfactory standard of proficiency. It is important to appreciate that a prospective officer may need to demonstrate ability on several occasions before a qualified officer is confident that a satisfactory standard has been achieved.

Monitoring and reviewing

11 Guidance and reviewing are essential to ensure that prospective officers are fully aware of the progress they are making and to enable them to join in decisions about their future programme. To be effective, reviews should be linked to information gained through the training record book and other sources as appropriate. The training record book should be scrutinized and endorsed formally by the master, chief engineer officer and the shipboard training officer at the beginning, during and at the end of each voyage. The training record book should also be examined and endorsed by the company training officer between voyages.

Assessment of abilities and skills in engineering watchkeeping

12 A candidate for certification who is required to have received special training and assessment of abilities and skills in electro-technical officer duties should be required to provide evidence, through demonstration either on a simulator or on board ship as part of an approved programme of shipboard training, that the skills and ability to perform as electro-technical officer in at least the following areas have been acquired, namely to:

- .1 monitor the operation of electrical, electronic and hydraulic control systems;
- .2 monitor the operation of automatic control systems of propulsion and auxiliary machinery;
- .3 operate and maintain power generation and distribution systems;
- .4 operate computers and computer networks;
- .5 appropriate use of tools and measuring instruments onboard for maintenance and repair work;
- .6 select appropriate materials and parts for repair work;
- .7 operate electrical, electronic and hydraulic control systems, including:
 - .7.1 interpreting and applying information obtained from operating manuals, and
 - .7.2 maintain and repair electrical and electronic equipment;
- .8 keep proper records relating to the ship's electrical, electronic and control systems; and
- .9 initiate action to be taken in the event of an imminent emergency situation (e.g. fire, electrical shock) and action in the immediate aftermath of an emergency.

Evaluation of competence

13 The standard of competence to be achieved for certification as electro-technical officer is set out in table A-III/6. The standard specifies the knowledge and skill required and the application of that knowledge and skill to the standard of performance required on board ship.

14 Scope of knowledge is implicit in the concept of competence. Assessment of competence should, therefore, encompass more than the immediate technical requirements of the job, the skills and tasks to be performed, and should reflect the broader aspects needed to meet the full expectations of competent performance as a ship's officer. This includes relevant knowledge, theory, principles and cognitive skills which, to varying degrees, underpin all levels of competence. It also encompasses proficiency in what to do, how and when to do it, and why it should be done. Properly applied, this will help to ensure that a candidate can:

- .1 work competently in different ships and across a range of circumstances;
- .2 anticipate, prepare for and deal with contingencies; and
- .3 adapt to new and changing requirements.

15 The criteria for evaluating competence (column 4 of table A-III/6) identify, primarily in outcome terms, the essential aspects of competent performance. They are expressed so that assessment of a candidate's performance can be made against them and should be adequately documented in the training record book.

16 Evaluation of competence is the process of:

- .1 collecting sufficient valid and reliable evidence about the candidate's knowledge, understanding and proficiency to accomplish the tasks, duties and responsibilities listed in column 1 of table A-III/6; and
- .2 judging that evidence against the criteria specified in the standard.

17 The arrangements for evaluating competence should be designed to take account of different methods of assessment which can provide different types of evidence about candidates' competence, e.g.:

- .1 direct observation of work activities (including seagoing service);
- .2 skills/proficiency/competency tests;
- .3 projects and assignments;
- .4 evidence from previous experience; and
- .5 written, oral and computer-based questioning techniques*.

18 One or more of the first four methods listed should almost invariably be used to provide evidence of ability, in addition to appropriate questioning techniques to provide evidence of supporting knowledge and understanding.

* The relevant IMO Model Course may be of assistance in the preparation of courses.