



SUB-COMMITTEE ON STANDARDS OF
TRAINING AND WATCHKEEPING
37th session
Agenda item 10

STW 37/10/1
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DEVELOPMENT OF COMPETENCES FOR RATINGS

Submitted by the United States

SUMMARY

Executive summary: MSC 80 endorsed STW 36's decision to develop competence for ratings for inclusion into the STCW Convention, and the establishment of a correspondence group to facilitate the development of these competences. The United States developed competence tables for Able Seaman (Deck Rating Grade 1) and Engine room Rating (Engine Room Rating Grade 1)

Action to be taken: Paragraph 6

Related documents: MSC 80/24 and STW 36/17

Introduction

1 The Maritime Safety Committee, at its eightieth session, endorsed the Sub-Committee's decision to develop competence for ratings (MSC 80/24, paragraph 11.16). To facilitate the development of competence for ratings, STW 36 established a correspondence group under the co-ordination of the United Kingdom to continue the work intersessionally per the agreed terms of reference (STW 36/17, paragraph 12.20 and annex 9).

2 The United States endorses the overall strategy and recommendations of the correspondence group as detailed in their report. Furthermore, we support the Correspondence Group's agreement on a two stage structure building upon the existing requirements for ratings forming part of the navigational and engineering watch (Regulations II/4 and III/4). In addition, we believe that as per the terms of reference, the Correspondence Group followed the Sub-Committee's decision that training and certification for ratings should follow the existing framework of the STCW Convention and STCW Code.

Discussion

3 Specific to training standard development is the prerequisite to:

- .1 identify the duties and responsibilities that are required of the job;
- .2 establish the competences that the person must have to meet the duties and responsibilities;

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- .3 develop the knowledge necessary to ensure that those competences are achieved;
- .4 establish how to assess that the trainees have met the competencies; and
- .5 establish the training success criteria for each competency. The STCW structure follows this model.

4 To assist the Sub-Committee in their discussion, the United States chartered a group of industry experts to develop the Tables of Competence for Able Seaman (Deck Rating Grade 1) and for Engine Room Rating (Engine Room Rating Grade 1) following the steps outlined in paragraph 3 above. The group of experts considered the correspondence group's discussions and recommendations, particularly that the two new rating categories – Able Seaman and Engine Room Ratings – should build upon the existing STCW requirements for ratings forming part of the navigational and engineering watch (Regulations II/4 and III/4), respectively).

5 Annexes 1 and 2 to this document outline the competences, the knowledge, understanding and proficiencies (KUPs), the methods for demonstrating competence, and the criteria for evaluating each competence for Engine Room rating and Deck rating respectively .

Action requested of the Sub-Committee

6 The Sub-Committee is invited to take note of the above information as well as the tables in the annexes when discussing the training requirements for Able Seaman and Engineer Ratings.

ANNEX 1

ENGINE ROOM RATING GRADE 1

Function 1: Watchkeeping

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Contribute to a safe engineering watch	Specification of minimum standard of competence for Ratings Forming Part of an Engineering Watch or Performing duties in an unmanned engine room.		TABLE A-III/4

Function 2: Marine Engineering Operations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Perform shipboard maintenance and repair	Ability to use cleaning and painting materials and equipment	Assessment of evidence obtained from practical demonstration	Maintenance activities are carried out in accordance with technical, safety and procedural specifications.
	Ability to understand and execute routine maintenance and repair procedures		
Contribute to the handling of stores	Understanding manufacturer's safety guidelines	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 practical training .3 examination .4 approved training ship experience	Stores operations are carried out in accordance with established safety practices and equipment operating instructions. The handling of dangerous, hazardous and harmful stores complies with established safety practices.
	Knowledge of surface preparation techniques Knowledge of safe disposal techniques for waste materials Knowledge of the application, maintenance and use of hand tools and measuring instruments		

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
			Communications within the operator's area of responsibility are consistently successful.
Contribute to fueling and oil transfer operations	Knowledge of fuel and oil transfer operations, including: .1 Preparations for fueling and transfer operations .2 Procedures for connecting and disconnecting fueling and transfer hoses .3 Reporting incidents associated with fuel and oil transfer operations .4 Securing from fueling and transfer operations .5 Ability to correctly measure and report tank levels	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 practical training .3 examination .4 approved training ship experience Assessment of evidence obtained from practical demonstration.	Transfer operations are carried out in accordance with established safety practices and equipment operating instructions. The handling of dangerous, hazardous and harmful liquids complies with established safety practices. Communications within the operator's area of responsibility are consistently successful.
Contribute to bilge and ballast operations	Knowledge of the function, operation and maintenance of the bilge and ballast systems, including: .1 Reporting incidents associated with transfer operations .2 Ability to correctly measure and report tank levels	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 practical training .3 examination .4 approved training ship experience Assessment of evidence obtained from practical demonstration	Operations and maintenance are carried out in accordance with established safety practices and equipment operating instructions and pollution of the marine environment is avoided. Communications within the operator's area of responsibility are consistently successful.
Contribute to the operation of equipment and machinery	Safe operation of equipment, including: .1 valves and pumps .2 hoists and lifting equipment .3 hatches, watertight doors, ports and related equipment	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 practical training .3 examination .4 approved training ship experience	Operations are carried out in accordance with established safety practices and equipment operating instructions. Communications within the operator's area of responsibility are consistently successful.

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	Ability to use and understand basic crane, winch and hoist signals.	Assessment of evidence obtained from practical demonstration	
Apply precautions and contribute to the prevention of pollution to the marine environment	Knowledge of the precautions to be taken to prevent pollution of the marine environment Knowledge of use and operation of anti-pollution equipment Knowledge of approved methods for disposal of marine pollutants	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 practical training .3 examination .4 approved training ship experience	Procedures designed to safeguard the marine environment are observed at all times.
Apply health and safety procedures	Working knowledge of personal shipboard safety practices, including: .1 electrical safety .2 lockout/tagout .3 mechanical safety .4 safe working practices as related to working above the deck or in enclosed spaces .5 chemical and biohazard safety .6 personal safety equipment	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 practical training .3 examination .4 approved training ship experience	Procedures designed to safeguard personnel and the ship are observed at all times. Safe working practices are observed and appropriate safety and protective equipment is correctly used at all times.
Apply precautions and contribute to vessel security	Knowledge of precautions to prevent and respond to security incidents.	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 practical training .3 examination .4 approved training ship experience	Procedures designed to safeguard the security of the ship are observed at all times.

ANNEX 2

DECK RATING GRADE 1

Function 1: Watchkeeping

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Navigation at the support level	Specification of Minimum Standard of Competence for Ratings Forming Part of a Navigation Watch		TABLE A-II/4

Function 2: Deck Operations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Contribute to the safe operation of deck equipment and machinery	Knowledge of deck equipment including: .1 function and uses of valves and pumps, hoists, cranes, booms, and related equipment .2 function and uses of winches, windlasses, capstans and related equipment .3 hatches, watertight doors, ports, and related equipment .4 fibre and wire rope, cables and chains including their construction, use, markings, maintenance and proper stowage .5 ability to use and understand basic signals for the operation of equipment including winches, windlasses, cranes, and hoists	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience; .2 practical training; .3 examination; .4 training ship experience	Operations are carried out in accordance with established safety practices and equipment operating instructions. Communications within the operator's area of responsibility are consistently successful.

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	.6 ability to operate anchoring equipment under various conditions such as anchoring, weighing anchor, securing for sea, and in emergencies	Assessment of evidence obtained from practical demonstration	Equipment operation is safely carried out in accordance with established procedures.
	Knowledge of the following procedures and ability to: .1 rig and unrig bosun's chairs and staging .2 rig and unrig pilot ladders, hoists, rat-guards, gangways and brows. Ability to use marlinespike seamanship skills including the proper use of knots, splices, and stoppers	Assessment of evidence obtained from practical demonstration	Demonstrate the proper methods for rigging and unrigging in accordance with safe industry practice Demonstrate the proper creation and use of knots, splices, stoppers, whippings, servings as well as proper canvas handling. Demonstrate the proper use of blocks and tackle Demonstrate the proper methods for handling lines, wires, cables and chains
Contribute to Berthing, Anchoring and other Mooring Operations	Working knowledge of the mooring system and related procedures including: .1 the function of each line and how each line functions as part of an overall system .2 the capacities, safe working loads, and breaking strengths of mooring equipment including mooring wires, synthetic and fiber lines, winches, anchor windlasses, capstans, bitts, chocks, and bollards .3 the procedures and order of events for making fast and letting go mooring lines and wires .4 the procedures and order of events for the use of anchors in various operations	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience; .2 practical training; .3 examination; .4 training ship experience	Operations are carried out in accordance with established safety practices and equipment operating instructions.

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	Working knowledge of the procedures and order of events associated with mooring to a buoy or buoys		
Contribute to the handling of Cargo and Stores	Knowledge of procedures for safe handling, stowage and securing of cargoes and stores	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience; .2 practical training; .3 examination; .4 training ship experience	Cargo and stores operations are carried out in accordance with established safety procedures The handling of dangerous, hazardous and harmful cargoes or stores complies with established safety practices.
Contribute to Fuel and Cargo Oil Transfer Operations	Knowledge of fuel and cargo oil transfer operations, including: .1 preparations for fueling and transfer operations .2 procedures for connecting and disconnecting fueling and transfer hoses. .3 reporting incidents associated with fuel and oil transfer operations. .4 securing from fuel and cargo transfer operations .5 ability to correctly measure and report tank levels	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience; .2 practical training; .3 examination; .4 training ship experience Assessment of evidence obtained from practical demonstration	Transfer operations are carried out in accordance with established safety practices and equipment operating instructions. The handling of dangerous, hazardous and harmful liquids complies with established safety practices.
			Measurements are within acceptable tolerances and communications within the operator's area of responsibility are consistently successful
Perform shipboard maintenance and repair	Ability to use painting, lubrication and cleaning materials and equipment Ability to understand and execute routine maintenance and repair procedures	Assessment of evidence obtained from practical demonstration	Maintenance and repair activities are carried out in accordance with technical, safety and procedural specifications

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	Understanding manufacturer's safety guidelines Knowledge of surface preparation techniques Knowledge of safe disposal techniques for waste materials Knowledge of the application, maintenance and use of hand tools	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience; .2 practical training; .3 examination; .4 training ship experience	
Apply health and safety precautions	Working knowledge of personal shipboard safety practices, including: .1 electrical safety .2 lockout/tagout .3 mechanical safety .4 safe working practices above the deck, over the side, and in enclosed spaces .5 chemical and biohazard safety .6 personal safety equipment .7 lifting techniques and methods of preventing back injury .8 safe working practices related to line handling	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience; .2 practical training; .3 examination; .4 training ship experience	Procedures designed to safeguard personnel and the ship are observed at all times Safe working practices are observed and appropriate safety and protective equipment is correctly used at all times
Apply precautions and contribute to the prevention of pollution of the marine environment	Knowledge of the precautions to be taken to prevent pollution of the marine environment Knowledge of the use and operation of anti-pollution equipment Knowledge of the approved methods for disposal of marine pollutants	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience; .2 practical training; .3 examination; .4 training ship experience	Procedures designed to safeguard the marine environment are observed at all times.