

SUB-COMMITTEE ON HUMAN ELEMENT,
TRAINING AND WATCHKEEPING
12th session
Agenda item 6

HTW 12/6/34
10 November 2025
Original: ENGLISH
Pre-session public release: ☒

COMPREHENSIVE REVIEW OF THE 1978 STCW CONVENTION AND CODE

Proposed draft amendments to the STCW Code to address gap no.406

Submitted by China, ICS, INTERTANKO, INTERCARGO and IPTA

SUMMARY

Executive summary: This document provides draft amendments to the STCW Code, in order to address gap no.406.

Strategic direction, if applicable: 6

Output: 6.17

Action to be taken: Paragraph 11

Related documents: HTW 11/11 and HTW 12/6

Background

1 The Sub-Committee, at its eleventh session, agreed to the list of gaps identified in the STCW Convention and Code, as set out in annex 1 to document HTW 11/WP.4. The Sub-Committee also agreed to the commencement of phase 2 of the comprehensive review (HTW 11/11, paragraphs 6.34 and 6.35).

2 This document provides draft amendments to the STCW Code, based on document HTW 7/12 (China and ICS), in order to address gap no.406, in relation to the matter on lack of minimum standards of competence of relevant capacity related to provisions of the BWM Convention.

Discussion

3 The co-sponsors note that the provisions of the BWM Convention and associated guidance emphasise the importance of the ballast water management-related training and familiarization of masters, officers and ratings to enable them to fulfil their responsibilities under the BWM Convention and operate and maintain ballast water management systems on board ships.

4 It is also noted that the "ballast water management system" is among the newest pieces of a ship's equipment and systems established as a statutory requirement by an IMO instrument (i.e. regulation D-3 of the BWM Convention).

5 The existing tables of competence in chapters II and III of the STCW Code provide for generic training related to most ships' equipment and systems established as statutory requirements by an IMO instrument, with existing examples such as ECDIS in table A-II/1, oily-water separators in table A-III/1, etc.

6 Therefore, the co-sponsors conclude that generic training related to the operation and maintenance of ballast water management systems is required and should be treated with the same philosophy, and as such, it should be included in the STCW Convention and Code in the same manner as the existing generic training related to other ships' systems and equipment. Such generic training should be seen as a formative precondition for the subsequent onboard familiarization required by regulation B-6 of the BWM Convention, as well as more generally by STCW regulation I/14 and the ISM Code.

Amendments to chapters II and III of the STCW Code

7 The co-sponsors have developed draft amendments to the STCW Code to provide for generic training related to ballast water management that addresses the responsibilities of shipboard personnel emanating from the BWM Convention and the ability to operate and maintain the ballast water management systems.

8 The co-sponsors identified the following when preparing the draft amendments:

- .1 personnel from both the deck and engine departments on ships will have some duties or responsibilities in relation to the ship's ballast water operations. Hence amendments are necessary to both chapters II and III of the STCW Code to ensure that generic training related to ballast water management recognizes each of the capacities concerned and accounts for their relevant duties or responsibilities;
- .2 there are existing competences and KUPs addressing the operation and maintenance of various other pieces of ship's systems and equipment in the existing tables of competence in chapters II and III of the STCW Code, Hence it is not necessary to introduce any new competence(s) addressing ballast water management into the STCW Code (except for section A-III/6), which has the added benefit of facilitating the implementation of the amendments into the current curricula of maritime education and training institutions;
- .3 there are existing provisions in the tables of competence in chapters II and III of the STCW Code concerning the knowledge of "responsibilities" under various IMO instruments. These can be amended to specifically reference the BWM Convention (as is practice related to SOLAS and MARPOL) and responsibilities related to ballast water management;
- .4 since the overarching environment-related objective referenced on numerous occasions in the existing provisions in the tables of competence in chapters II and III of the STCW Code is "pollution prevention" (or the iteration "prevent pollution"), a consequence of introducing ballast water management to the existing competences is that amendments are necessary to expand the objective expressed to "protection of marine environment" (or iteration thereof); and
- .5 section 3 of the BWMS Code (2018) defines a *Ballast water management system* (BWMS) to mean any system which processes ballast water such that it meets or exceeds the ballast water performance standard in regulation D-2. Such BWMS includes ballast water treatment equipment, all associated

control equipment, piping arrangements as specified by the manufacturer, control and monitoring equipment and sampling facilities. As the BWMS Code mentions "ballast water treatment technology", this terminology and treatment equipment may be used, however, for the system scope, the use of "ballast water management system" is more consistent with BWMS conventions and regulations.

Information to support the proposed amendments

9 Taking into account the information for the submission of proposals for phase 2 of the comprehensive review of the STCW Convention and Code, as set out in document HTW 12/6 (Secretariat), information to support the proposed amendments is set out below:

Gap no.*406	
Related documents, if any:	ISWG-STCW 1/2/19 and HTW 7/12
Action requested:	Modification to tables A-II/1, A-II/2, A-II/3, A-II/5, A-III/1, A-III/2, A-III/5, A-III/6 and A-III/7.
Available evidence, data, research, etc., if any, to support the proposed amendments:	Not applicable
Voluntary assessment on the possible cumulative impact (if the proposal aims at adding new training requirements, provide information on the cumulative impact on seafarers' training/certification and possible measures to address the impact):	Information on the cumulative impact: Moderate impact on delivery and training hours for certification for regulations II/1, II/2, II/3, II/5, III/1, III/2, III/5, III/6 and III/7 due to KUPs enhanced and on regulation III/6 due to added competences and KUPs introduced in the associated tables. No impact expected on Administration
	Possible measures to address the cumulative impact: Revision of existing Model Courses

Proposal

10 It is proposed to amend tables A-II/1, A-II/2, A-II/3, A-II/5, A-III/1, A-III/2, A-III/5, A-III/6 and A-III/7, as set out in the annex.

Action request of the Sub-Committee

11 The Sub-Committee is invited to consider the information and proposals in paragraphs 3 to 10; and the annex, and take action, as appropriate.

* Gap nos. are listed in the annex to document HTW 12/6.

ANNEX*

PROPOSED DRAFT AMENDMENTS TO TABLES A-II/1, A-II/2, A-II/3, A-II/5, A-III/1, A-III/2, A-III/5, A-III/6 AND A-III/7 OF THE CODE

CHAPTER II

Standards regarding the master and deck department

Section A-II/1

Mandatory minimum requirements for certification of officers in charge of a navigational watch on ships of 500 gross tonnage or more

1 Table A-II/1 (Specification of minimum standard of competence for officers in charge of a navigational watch on ships of 500 gross tonnage or more) is proposed to be amended, as follows:

"Function: Cargo handling and stowage at the operational level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Monitor the Loading stowage, securing, care during the voyage and the unloading of cargoes	... Ability to establish and maintain effective communications during loading and unloading Understanding of loading and discharge of ballast water, ballast water management	...	... Communications are clear, understood and consistently successful Ballast water operation and management are carried out in accordance with the ballast water management plan or other documents, established safety rules/regulations, equipment operating instructions, and ship stability, trim, heel, draught and stress limitations.
...	...	...	...

"

* Tracked changes are used based on the existing provisions, which are provided in document HTW 12/6/1, i.e. "strikeout" for deleted text and "grey shading" to highlight all modifications and new insertions, including deleted text.

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

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
Ensure compliance with environmental protection pollution-prevention requirements	Prevention of pollution Protection of the marine environment and anti-pollution environmental protection procedures Knowledge of the precautions to be taken to prevent pollution of protect the marine environment Anti-pollution Environmental protection procedures and all associated equipment ...	...	Procedures for monitoring shipboard operations and ensuring compliance with MARPOL and the 2004 BWM Convention requirements are fully observed Actions to ensure that a positive environmental reputation is maintained
...	...	...	...

"

Section A-II/2

Mandatory minimum requirements for certification of masters and chief mates on ships of 500 gross tonnage or more

2 Table A-II/2 (Specification of minimum standard of competence for masters and chief mates on ships of 500 gross tonnage or more) is proposed to be amended, as follows:

"Function: Cargo handling and stowage at the management level

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes	... Loading and unloading operations, with special regard to the transport of cargoes identified in the Code of Safe Practice for Cargo Stowage and Securing Proficiency to formulate loading and discharge plans of ballast water, ballast water management, and supervise ballast water operation and management, and accurately	...	Stowage and securing of cargoes ensures that stability and stress conditions remain within safe limits at all times during the voyage Formulating loading and discharge plans of ballast water, ballast water management, and supervising ballast water operation and management are

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
	document the ballast water record book General knowledge of tankers and tanker operations ...		carried out in accordance with the ballast water management plan or other documents, established safety rules/regulations, equipment operating instructions, and ship stability, trim, heel, draught and stress limitations.
...	...	...	...

"

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

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
...	...	...	...
Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment	... Regard shall be paid especially to the following subjects: 4 responsibilities under the International Convention for the Prevention of Pollution from Ships and the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004, as amended ...	...	...
...	...	...	...

"

Section A-II/3

Mandatory minimum requirements for certification of officers in charge of a navigational watch and of masters on ships of less than 500 gross tonnage, engaged on near-coastal voyages

3 Table A-II/3 (Specification of minimum standard of competence for officers in charge of a navigational watch and for masters on ships of less than 500 gross tonnage engaged on near-coastal voyages) is proposed to be amended, as follows:

"Function: Cargo handling and stowage at the operational level

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
Monitor the loading, stowage, securing and unloading of cargoes and their care during the voyage	... Use of the International Maritime Dangerous Goods (IMDG) Code Understanding of formulating loading and discharge plans of ballast water, loading and discharge of ballast water and ballast water management, and accurately documenting the ballast water record book	...	The handling of dangerous, hazardous and harmful cargoes complies with international regulations and recognized standards and codes of safe practice Formulating and supervising loading and discharge plans, ballast water operation and management are carried out in accordance with the ballast water management plan or other documents and established safety rules/regulations, equipment operating instructions and ship stability, trim, heel, draught and stress limitations

"

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

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
Ensure compliance with environmental protection	Prevention of pollution Protection of the marine environment and anti-pollution	...	Procedures for monitoring shipboard operations and ensuring compliance

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
pollution- prevention requirements	environmental protection procedures Knowledge of the precautions to be taken to prevent pollution of protect the marine environment Anti-pollution Environmental protection procedures and all associated equipment		with MARPOL and the 2004 BWM Convention requirements are fully observed
...	...	...	...

Section A-II/5

Mandatory minimum requirements for certification of ratings as able seafarer deck

4 Table A-II/5 (Specification of minimum standards of competence of ratings as able seafarer deck) is proposed to be amended, as follows:

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

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
...	...	...	...
Apply precautions and contribute to protect the prevention of pollution of the marine environment	Knowledge of the precautions to be taken to prevent pollution of protect the marine environment Knowledge of the use and operation of environmental protection anti-pollution equipment Knowledge of the approved methods for disposal of marine pollutants and harmful aquatic organisms and pathogens	...	...
...	...	...	...

CHAPTER III Standards regarding engine department

Section A-III/1

Mandatory minimum requirements for certification of officers in charge of an engineering watch in a manned engine-room or as designated duty engineers in a periodically unmanned engine-room

5 Table A-III/1 (Specification of minimum standard of competence for officers in charge of an engineering watch in a manned engine-room or designated duty engineers in a periodically unmanned engine-room) is proposed to be amended, as follows:

"Function: Marine engineering at the operational level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
...	...	...	...
Operate main and auxiliary machinery and associated control systems	Basic construction and operation principles of machinery systems, including: 6 other auxiliaries, including various pumps, air compressor, purifier, fresh water generator, heat exchanger, refrigeration, ballast water management, air-conditioning, and ventilation systems ... Preparation, operation, fault detection and necessary measures to prevent damage for the following machinery items and control systems: 4 other auxiliaries, including refrigeration, ballast water management, air-conditioning and ventilation systems	...	... Operations are planned and carried out in accordance with operating manuals, established rules and procedures to ensure safety of operations and avoid pollution protection of the marine environment ...

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
Operate fuel, lubrication, ballast and other pumping systems and associated control systems	Operational characteristics of pumps, and piping and management systems, including control systems Operation of pumping systems: .1 routine pumping operations .2 operation of bilge, ballast and cargo pumping systems Oily-water separators (or similar equipment) requirements and operation Ballast water management system requirements and operation	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training ship experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Operations are planned and carried out in accordance with operating manuals, established rules and procedures to ensure safety of operations and avoid pollution protection of the marine environment Deviations from the norm are promptly identified and appropriate action is taken

"

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

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Ensure compliance with environmental protection pollution-prevention requirements	Prevention of pollution Protection of the marine environment Knowledge of the precautions to be taken to prevent pollution of protect the marine environment Anti-pollution Environmental protection procedures and all associated equipment ...	...	Procedures for monitoring shipboard operations and ensuring compliance with MARPOL and 2004 BWM Convention requirements are fully observed ...
...	...	...	...

"

Section A-III/2

Mandatory minimum requirements for certification of chief engineer officers and second engineer officers on ships powered by main propulsion machinery of 3,000 kW propulsion power or more

6 Table A-III/2 (Specification of minimum standard of competence for chief engineer officers and second engineer officers on ships powered by main propulsion machinery of 3,000 kW propulsion power or more) is proposed to be amended, as follows:

"Function: Marine engineering at the management level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
...	...	...	...
Plan and schedule operations	<i>Theoretical knowledge</i> ... Naval architecture and ship construction, including damage control Ballast water treatment technologies	...	...

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
Operation, surveillance, performance assessment and maintaining safety of propulsion plant and auxiliary machinery	<i>Practical knowledge</i> ... Functions and mechanism of automatic control for auxiliary machinery including but not limited to: 7 cargo-handling equipment and deck machinery .8 ballast water management system	...	The methods of preparing for the start-up and of making available fuels, lubricants, treatment agent, cooling water and air are the most appropriate ...
Manage fuel, lubrication and ballast operations	Operation and maintenance of machinery, including pumps, and piping and management systems	...	Fuel and ballast operations meet operational requirements and are carried out so as to prevent pollution of protect the marine environment

"

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

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
...	...	...	...
Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and protection of the marine environment	... Regard shall be paid especially to the following subjects: 4 responsibilities under the International Convention for the Prevention of Pollution from Ships and the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004, as amended ...	...	...
...	...	...	...

"

Section A-III/5

Mandatory minimum requirements for certification of ratings as able seafarer engine in a manned engine-room or designated to perform duties in a periodically unmanned engine-room

7 Table A-III/5 (Specification of minimum standard of competence for ratings as able seafarer engine in a manned engine-room or designated to perform duties in a periodically unmanned engine-room) is proposed to be amended, as follows:

"Function: Marine engineering at the support level

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
...	...	...	...
Contribute to bilge and ballast operations	Knowledge of the safe function, operation and maintenance of the bilge and ballast systems, and ballast water management system, including: .1 reporting incidents associated with transfer operations .2 ability to correctly measure and report tank levels .3 reporting changes of pressure and power in the ballast water management system	...	Operations and maintenance are carried out in accordance with established safety practices and equipment operating instructions and pollution of the marine environment is avoided protected Communications within the operator's area of responsibility are consistently successful
...	...	...	...

"

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

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
...	...	...	...
Apply precautions and contribute to protection the prevention of pollution of the marine environment	Knowledge of the precautions to be taken to prevent pollution of protect the marine environment Knowledge of the use and operation of environmental protection anti-pollution equipment	...	...

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
	Knowledge of the approved methods for disposal of marine pollutants and harmful aquatic organisms and pathogens		
...	...	...	...

"

Section A-III/6

Mandatory minimum requirements for certification of electro-technical officers

8 Table A-III/6 (Specification of minimum standard of competence for electro-technical officers) is proposed to be amended, as follows:

"Function: Electrical, electronic and control engineering at the operational level

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
Monitor the operation of electrical, electronic and control systems	Basic understanding of the operation of mechanical engineering systems, including: 4bis ballast water management systems	...	...
...	...	...	...

"

"Function: Maintenance and repair at the operational level

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
...	...	...	...
Maintenance and repair of electrical, electronic and control	<i>Theoretical knowledge:</i> Electrical, electronic and control systems of ballast	Examination and assessment of evidence obtained from one or more of the following:	The effect of malfunctions on associated plant and systems is accurately identified, ship's

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
systems of ballast water management systems	water management systems <i>Practical knowledge</i> Carrying out safe maintenance and repair procedures Detection of electrical, electronic and control systems malfunction, location of fault and repair to prevent damage	.1 approved in-service experience .2 approved training ship experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	technical drawings are correctly interpreted, measuring and calibrating instruments are correctly used and actions taken are justified Isolation, dismantling and reassembly of plant and equipment is in accordance with manufacturer's safety guidelines and shipboard instructions, legislative and safety specifications. Action taken leads to the restoration of the ballast water management system by the method most suitable and appropriate to the prevailing circumstances and conditions

"

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

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
Ensure compliance with environmental protection pollution- prevention requirements	<i>Prevention of pollution</i> <i>Protection of the marine environment</i> Knowledge of the precautions to be taken to prevent pollution of protect the marine environment <i>Anti-pollution</i> <i>Environmental protection</i>	...	Procedures for monitoring shipboard operations and ensuring compliance with environmental protection pollution- prevention requirements are fully observed Actions to ensure that a positive

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
	procedures and all associated equipment Importance of proactive measures to protect the marine environment		environmental reputation is maintained
...	...	...	...

"

Section A-III/7

Mandatory minimum requirements for certification of electro-technical rating

9 Table A-III/7 (Specification of minimum standard of competence for electro-technical ratings) is proposed to be amended, as follows:

"Function: Electrical, electronic and control engineering at the support level

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
...	...	...	...
Contribute to monitoring the operation of electrical systems and machinery	Basic knowledge of the operation of mechanical engineering systems, including: 4bis ballast water management systems ...	...	...
...	...	...	...

"

"Function: Maintenance and repair at the support level

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
...	...	...	...
Contribute to the maintenance and repair of electrical	<i>Safety and emergency procedures</i> ...	...	...

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
systems and machinery on board	Maintenance and repair of lighting fixtures and supply systems Maintenance and repair of electric and electronic components of ballast water management systems		

"

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

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
...	...	...	...
Apply precautions and contribute to protect the prevention of pollution of the marine environment	Knowledge of the precautions to be taken to prevent pollution of protect the marine environment Knowledge of the use and operation of environmental protection anti-pollution equipment/agents Knowledge of the approved methods for disposal of marine pollutants and harmful aquatic organisms and pathogens	...	...
...	...	...	...

"