

MARITIME SAFETY COMMITTEE
96th session
Agenda item 3

MSC 96/3/2
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**CONSIDERATION AND ADOPTION OF AMENDMENTS
TO MANDATORY INSTRUMENTS**

**Amendments to the International Convention on Standards of Training, Certification and
Watchkeeping for Seafarers (STCW), 1978, as amended, and the Seafarers' Training,
Certification and Watchkeeping (STCW) Code**

Note by the Secretariat

SUMMARY

<i>Executive summary:</i>	The Committee is invited to consider, with a view to adoption, the proposed amendments to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978, as amended, and amendments to the Seafarers' Training, Certification and Watchkeeping (STCW) Code
<i>Strategic direction:</i>	5.2*
<i>High-level action:</i>	5.2.1*
<i>Planned output:</i>	5.2.1.15*
<i>Action to be taken:</i>	Paragraph 3
<i>Related documents:</i>	MSC 95/22/Add.2, annexes 8, 9 and 10 and Circular Letter No.3556 of 28 July 2015

1 The Committee will recall that, at its ninety-fifth session, it approved proposed amendments to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978, as amended, and to the Seafarers' Training, Certification and Watchkeeping (STCW) Code, as set out in the annexes, for consideration, with a view to adoption at MSC 97, since the previous amendments to chapters I and V of the STCW Convention and chapter V of the STCW Code, which were adopted by resolutions MSC.396(95), and MSC.397(95) respectively, are not yet deemed to have been accepted**.

* Refers to the High-level Action Plan for the 2014-2015 biennium.

** The amendments adopted by resolutions MSC.396(95) and MSC.397(95) shall be deemed to have been accepted on 1 July 2016 and shall enter into force on 1 January 2017.

2 The proposed amendments, relating to revised training requirements for masters and deck officers on board ships operating in polar waters, have been circulated to all IMO Members and Parties to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978, as amended, under cover of Circular Letter No.3556 of 28 July 2015.

Action requested of the Committee

3 The Committee is invited to consider the proposed amendments set out in the annexes, with a view to adoption at MSC 97, in accordance with article XII(1)(a)(iv) and regulation I/1.2.3, as appropriate, of the said Convention. If the Committee agrees, the draft amendments will be forwarded to MSC 97 for adoption.

ANNEX 1

**DRAFT RESOLUTION MSC.[...(97)]
(adopted on [...])**

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

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO article XII of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 ("the Convention"), concerning the procedures for amending the Convention,

RECALLING FURTHER that the Committee, by resolution MSC.386(94), adopted, inter alia, the new chapter XIV of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended,

ALSO RECALLING that the Committee, by resolution MSC.385(94), adopted the *International Code for Ships Operating in Polar Waters (Polar Code)* which will take effect on 1 January 2017 upon entry into force of the new chapter XIV of the SOLAS Convention,

NOTING that there will be a transitional period between the entry into force of the Polar Code and the amendments to the STCW Convention,

HAVING CONSIDERED, at its [ninety-seventh] session, amendments to the Convention proposed and circulated in accordance with article XII(1)(a)(i) of the Convention,

1 ADOPTS, in accordance with article XII(1)(a)(iv) of the Convention, amendments to the Convention, the text of which is set out in the annex to the present resolution;

2 DETERMINES ALSO, in accordance with article XII(1)(a)(vii)(2) of the Convention, that the said amendments shall be deemed to have been accepted on [1 January 2018], unless, prior to that date more than one third of Parties or Parties the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant shipping of ships of 100 gross register tons or more, have notified the Secretary-General of their objections to the amendments;

3 INVITES Parties to note that, in accordance with article XII(1)(a)(ix) of the Convention, that the amendments annexed hereto, shall enter into force on [1 July 2018] upon their acceptance in accordance with paragraph 2 above;

4 URGES Parties to implement these amendments at an early stage;

5 REQUESTS the Secretary-General, for the purposes of article XII(1)(a)(v) to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Parties to the Convention;

6 REQUESTS ALSO the Secretary-General to transmit copies of this resolution and its annex to Members of the Organization, which are not Parties to the Convention.

ANNEX

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

CHAPTER I – GENERAL PROVISIONS

1 In regulation I/1.1, after the existing subparagraph .41, the following new definition is inserted:

"42 *Polar Code* means the International Code for Ships Operating in Polar Waters, as defined in SOLAS regulation XIV/1.1."

2 In regulation I/11, after the existing paragraph 3, the following new paragraph is inserted:

"4 Every master or officer shall, for continuing seagoing service on board ships operating in polar waters, meet the requirements of paragraph 1 of this regulation and be required, at intervals not exceeding five years, to establish continued professional competence for ships operating in polar waters in accordance with section A-1/11, paragraph 4 of the STCW Code."

and the subsequent paragraphs are renumbered accordingly.

**CHAPTER V – SPECIAL TRAINING REQUIREMENTS FOR PERSONNEL ON CERTAIN
TYPES OF SHIPS**

3 In chapter V, after the existing regulation V/3, the following new regulation is inserted:

"Regulation V/4

Mandatory minimum requirements for the training and qualifications of masters and deck officers on ships operating in polar waters.

1 Masters, chief mates and officers in charge of a navigational watch on ships operating in polar waters shall hold a certificate in basic training for ships operating in polar waters, as required by the Polar Code.

2 Every candidate for a certificate in basic training for ships operating in polar waters shall have completed an approved basic training for ships operating in polar waters and meet the standard of competence specified in section A-V/4, paragraph 1, of the STCW Code.

3 Masters and chief mates on ships operating in polar waters, shall hold a certificate in advanced training for ships operating in polar waters, as required by the Polar Code.

4 Every candidate for a certificate in advanced training for ships operating in polar waters shall:

.1 meet the requirements for certification in basic training for ships in polar waters;

- .2 have at least two (2) months of approved seagoing service in the deck department, at management level or while performing watchkeeping duties at the operational level, within polar waters or other equivalent approved seagoing service; and
- .3 have completed approved advanced training for ships operating in polar waters and meet the standard of competence specified in section A-V/4, paragraph 2 of the STCW Code.

5 Administrations shall ensure that a Certificate of Proficiency is issued to seafarers who are qualified in accordance with paragraphs 2 or 4, as appropriate.

Transitional provisions

6 Until [*entry into force date plus 2 years*], seafarers who commenced approved seagoing service in polar waters prior to [*the date of entry into force of this section*] shall be able to establish that they meet the requirements of paragraph 2 by:

- .1 having completed approved seagoing service on board a ship operating in polar waters or equivalent approved seagoing service, performing duties in the deck department at the operational or management level, for a period of at least three months in total during the preceding five years; or
- .2 having successfully completed a training course meeting the training guidance established by the Organization for ships operating in polar waters.¹

7 Until [*entry into force date plus 2 years*], seafarers who commenced approved seagoing service in polar waters prior to [*the date of entry into force of this section*] shall be able to establish that they meet the requirements of paragraph 4 by:

- .1 having completed approved seagoing service on board a ship operating in polar waters or equivalent approved seagoing service, performing duties in the deck department at management level, for a period of at least three months in total during the preceding five years; or
- .2 having successfully completed a training course meeting the training guidance established by the Organization for ships operating in polar waters¹ and having completed approved seagoing service on board a ship operating in polar waters or equivalent approved seagoing service, performing duties in the deck department at the management level, for a period of at least two months in total during the preceding five years."

¹ Refer to section B-V/g of the STCW Code.

ANNEX 2

**DRAFT RESOLUTION MSC.[...(97)]
(adopted on [...])**

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

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING FURTHER article XII and regulation I/1.2.3 of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 ("the Convention"), concerning the procedures for amending part A of the Seafarers' Training, Certification and Watchkeeping (STCW) Code,

HAVING CONSIDERED, at its [ninety-seventh] session, amendments to part A of the STCW Code, proposed and circulated in accordance with article XII(1)(a)(i) of the Convention,

1 ADOPTS, in accordance with article XII(1)(a)(iv) of the Convention, amendments to the STCW Code, the text of which is set out in the annex to the present resolution;

2 DETERMINES ALSO, in accordance with article XII(1)(a)(vii)(2) of the Convention, that the amendments to the STCW Code shall be deemed to have been accepted on [1 January 2018], unless, prior to that date more than one third of Parties or Parties the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant shipping of ships of 100 gross register tons or more, have notified to the Secretary-General of the Organization their objections to the amendments;

3 INVITES Parties to note that, in accordance with article XII(1)(a)(ix) of the Convention, the annexed amendments to the STCW Code, shall enter into force on [1 July 2018] upon their acceptance in accordance with paragraph 2 above;

4 URGES Parties to implement these amendments at an early stage;

5 REQUESTS the Secretary-General, for the purposes of article XII(1)(a)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Parties to the Convention;

6 REQUESTS ALSO the Secretary-General to transmit copies of this resolution and its annex to Members of the Organization, which are not Parties to the Convention.

ANNEX

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

CHAPTER I – GENERAL PROVISIONS

1 In section A-I/11, *Revalidation of Certificates*, a new paragraph 4 is added as follows:

"4 Continued professional competence for masters and officers on board ships operating in polar waters as required under regulation I/11 shall be established by:

- .1 approved seagoing service, performing functions appropriate to the certificate held, for a period of at least two months in total during the preceding five years; or
- .2 having performed functions considered to be equivalent to the seagoing service required in paragraph 4.1; or
- .3 passing an approved test; or
- .4 successfully completing an approved training course or courses."

**CHAPTER V – SPECIAL TRAINING REQUIREMENTS FOR PERSONNEL ON CERTAIN
TYPES OF SHIPS**

2 A new section A-V/4 is added after the existing section A-V/3 as follows:

"Section A-V/4

Mandatory minimum requirements for the training and qualifications of masters and deck officers on ships operating in polar waters

Standard of competence

1 Every candidate for certification in basic training for ships operating in polar waters shall be required to:

- .1 demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-V/4-1; and
- .2 provide evidence of having achieved:
 - .1 the minimum knowledge, understanding and proficiency listed in column 2 of table A-V/4-1; and
 - .2 the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-V/4-1.

- 2 Every candidate for certification in advanced training for ships operating in polar waters shall be required to:
- .1 demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-V/4-2; and
 - .2 provide evidence of having achieved:
 - .1 the minimum knowledge, understanding and proficiency listed in column 2 of table A-V/4-2; and
 - .2 the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-V/4-2.

Table A-V/4-1

**Specification of minimum standard of competence in basic training
for ships operating in polar waters**

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
<p>Contribute to safe operation of vessels operating in polar waters</p>	<p><i>Basic knowledge of ice characteristics and areas where different types of ice can be expected in the area of operation:</i></p> <ol style="list-style-type: none"> 1. Ice physics, terms, formation, growth, aging and stage of melt; 2. Ice types and concentrations; 3. Ice pressure and distribution; 4. Friction from snow covered ice; 5. Implications of spray-icing; danger of icing up; precautions to avoid icing up and options during icing up; 6. Ice regimes in different regions. Significant differences between the Arctic and the Antarctic, first year and multiyear ice, sea ice and land ice; 7. Use of ice imagery to recognize consequences of rapid change in ice and weather conditions; 8. Knowledge of ice sky and water blink; 9. Knowledge of differential movement of icebergs and pack ice; 10. Knowledge of tides and currents in ice; 11. Knowledge of effect of wind and current on ice. 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved training programme 	<p>Identification of ice properties and their characteristics of relevance for safe vessel operation.</p> <p>Information obtained from ice information and publications is interpreted correctly and properly applied.</p> <p>Use of visible and infrared satellite images. Use of egg charts. Coordination of meteorological and oceanographic data with ice data.</p> <p>Measurements and observations of weather and ice conditions are accurate and appropriate for safe passage planning.</p>

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
	<p><i>Basic knowledge of vessel performance in ice and low air temperature:</i></p> <ol style="list-style-type: none"> 1. Vessel characteristics; 2. Vessel types, hull designs; 3. Engineering requirements for operating in ice; 4. Ice strengthening requirements; 5. Limitations of ice-classes; 6. Winterization and preparedness of vessel, including deck and engine; 7. Low-temperature system performance; 8. Equipment and machinery limitation in ice condition and low air temperature; 9. Monitoring of ice pressure on hull; 10. Sea suction, water intake, superstructure insulation and special systems. 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved training programme 	<p>Identification of vessel characteristics and limitations under different ice conditions and cold environmental impact.</p> <p>Procedures are made for risk assessment before entering ice.</p> <p>Awareness of fresh water ballast freezing in ballast tanks.</p> <p>Actions are carried out in accordance with accepted principles and procedures to prepare the vessel and the crew for operations in ice and low air temperature.</p> <p>Communications are clear, concise and effective at all times in a seamanlike manner.</p>
	<p><i>Basic knowledge and ability to operate and manoeuvre a vessel in ice:</i></p> <ol style="list-style-type: none"> 1. Safe speed in the presence of ice and icebergs; 2. Ballast tank monitoring; 3. Cargo operations in polar waters; 4. Awareness of engine loads and cooling problems; 5. Safety procedures during ice transit. 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved training programme 	<p>Use Polar Code and Polar Water Operations Manual to correctly determine the recommended procedures to load/offload cargo/passengers in low temperatures, monitor ballast water for icing, monitor engine temperatures, anchor watch concerns in ice, and transit near ice.</p>

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
			<p>Interpretation and analysis of information from radar is in accordance with lookout procedures with special caution regarding identification of dangerous ice features.</p> <p>Information obtained from navigational charts, including electronic charts, and publications is relevant, assessed, interpreted correctly and properly applied.</p> <p>The primary method of position fixing is frequent and the most appropriate for the prevailing conditions and routing through ice.</p> <p>Performance checks and tests of navigation and communication systems comply with recommendations for high latitude and low air temperature operation.</p>
<p>Monitor and ensure compliance with legislative requirements</p>	<p><i>Basic knowledge of regulatory considerations:</i></p> <ol style="list-style-type: none"> 1. Antarctic Treaty and the Polar Code; 2. Accident reports concerning vessels in polar waters; 3. IMO standards for operation in remote areas. 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved training programme 	<p>Locate and apply relevant parts of the Polar Water Operations Manual.</p> <p>Communication is in accordance with local/regional and international standard procedures.</p> <p>Legislative requirements related to relevant regulations, codes and practices are identified.</p>

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Apply safe working practices, respond to emergencies	<p><i>Basic knowledge of crew preparation, working conditions and safety:</i></p> <ol style="list-style-type: none"> 1. Recognize limitations of search and rescue readiness and responsibility, including sea area A4 and its SAR communication facility limitation; 2. Awareness of contingency planning; 3. How to establish and implement safe working procedures for crew specific to polar environments such as low temperatures, ice-covered surfaces , personal protective equipment, use of buddy system, and working time limitations; 4. Recognize dangers when crews are exposed to low temperatures; 5. Human factors including cold fatigue, medical-first aid aspects, crew welfare; 6. Survival requirements including the use of personal survival equipment and group survival equipment; 7. Awareness of the most common hull and equipment damages and how to avoid these; 8. Superstructure-deck icing, including effect on stability and trim; 9. Prevention and removal of ice including the factors of accretion; 10. Recognize fatigue problems due to noise and vibrations; 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved training 	<p>Identification and initial actions on becoming aware of hazardous situations for vessel and individual crew members.</p> <p>Actions are carried out in accordance with Polar Water Operations Manual, accepted principles and procedures to ensure safety of operations and to avoid pollution of the marine environment.</p> <p>Safe working practices are observed and appropriate safety and protective equipment is correctly used at all times.</p> <p>Response actions are in accordance with established plans and are appropriate to the situation and nature of the emergency.</p> <p>Correctly identifies and applies legislative requirements related to relevant regulations, codes and practices.</p> <p>Appropriate safety and protective equipment is correctly used.</p> <p>Defects and damages are detected and properly reported.</p>

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>11. Identify need for extra resources, such as bunker, food and extra clothing.</p>		
<p>Ensure compliance with pollution-prevention requirements and prevent environmental hazards</p>	<p><i>Basic knowledge of environmental factors and regulations:</i></p> <ol style="list-style-type: none"> 1. Identify particularly sensitive sea areas regarding discharge; 2. Identify areas where shipping is prohibited or should be avoided; 3. Special areas defined in MARPOL; 4. Recognize limitations of oil-spill equipment; 5. Plan for coping with increased volumes of garbage, bilge water, sewage, etc.; 6. Lack of infrastructure; 7. Oil spill and pollution in ice, including consequences. 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved training programme 	<p>Legislative requirements related to relevant regulations, codes and practices are identified.</p> <p>Correctly identify/select the limitations on vessel discharges contained in the Polar Code.</p> <p>Correctly apply Polar Water Operations Manual/Waste Management Plan to determine limitations on vessel discharges and plans for storing waste.</p> <p>Identify references that provide details of areas to be avoided, such as wildlife refuges, ecological heritage parks, migratory pathways, etc. (MARPOL, Antarctic Treaty, etc.).</p> <p>Identify factors that must be considered to manage waste stream during polar voyages.</p>

Table A-V/4-2

**Specification of minimum standard of competence in advanced training
for ships operating in polar waters**

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
<p>Plan and conduct a voyage in polar waters</p>	<p><i>Knowledge of voyage planning and reporting:</i></p> <ol style="list-style-type: none"> 1. Information sources; 2. Reporting regimes in polar waters; 3. Development of safe routeing and passage planning to avoid ice where possible; 4. Ability to recognize the limitations of hydrographic information and charts in polar regions and whether the information is suitable for safe navigation; 5. Passage planning deviation and modification for dynamic ice conditions. <p><i>Knowledge of equipment limitations:</i></p> <ol style="list-style-type: none"> 1. Understand and identify hazards associated with limited terrestrial navigational aids in polar regions; 2. Understand and recognize high latitude errors on compasses; 3. Understand and identify limitations in discrimination of radar targets and ice features in ice-clutter; 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved training programme 	<p>The equipment, charts and nautical publications required for the voyage are enumerated and appropriate to the safe conduct of the voyage.</p> <p>The reasons for the planned route are supported by facts obtained from relevant sources and publications, statistical data and limitations of communication and navigational systems.</p> <p>Voyage plan correctly identified relevant polar regulatory regimes and need for ice-pilotage or/and icebreaker assistance.</p> <p>All potential navigational hazards are accurately identified.</p> <p>Positions, courses, distances and time calculations are correct within accepted accuracy standards for navigational equipment.</p>

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
	<ol style="list-style-type: none"> 4. Understand and recognize limitations of electronic positioning systems at high latitude; 5. Understand and recognize limitations in nautical charts and pilot descriptions; 6. Understand and recognize limitations in communication systems. 		
<p>Manage the safe operation of vessels operating in polar waters</p>	<p><i>Knowledge and ability to operate and manoeuvre a vessel in ice:</i></p> <ol style="list-style-type: none"> 1. Preparation and risk assessment before approaching ice, including presence of icebergs, and taking into account wind, darkness, swell, fog and pressure ice; 2. Conduct communications with an icebreaker and other vessels in the area and with Rescue Coordination Centres; 3. Understand and describe the conditions for the safe entry and exit to and from ice or open water, such as leads or cracks, avoiding icebergs and dangerous ice conditions and maintaining safe distance to icebergs; 4. Understand and describe ice-ramming procedures including double and single ramming passage; 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate approved training programme 	<p>All decisions concerning navigating in ice are based on a proper assessment of the ship's manoeuvring and engine characteristics and the forces to be expected while navigating within polar waters.</p> <p>Demonstrate communications skills, request ice routing, plot and commence voyage through ice.</p> <p>All potential ice hazards are correctly identified.</p> <p>All decisions concerning berthing anchoring, cargo and ballast operations are based on a proper assessment of the ship's manoeuvring and engine characteristics and the forces to be expected and in accordance with the</p>

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
	<ol style="list-style-type: none"> 5. Recognize and determine the need for bridge watch team augmentation based upon environmental conditions, vessel equipment and vessel ice class; 6. Recognize the presentations of the various ice conditions as they appear on radar; 7. Understand icebreaker convoy terminology, and communications, and take icebreaker direction and move in convoy; 8. Understand methods to avoid besetment and to free beset vessel, and consequences of besetment; 9. Understand towing and rescue in ice, including risks associated with operation; 10. Handling ship in various ice concentration and coverage, including risks associated with navigation in ice, and turning-backing avoidance etc.; 11. Use of different type of propulsion and rudder systems, including limitations to avoid damage when operating in ice; 12. Use of heeling and trim systems, hazards in connection with ballast and trim in relation with ice; 		<p>Polar Code guidelines and applicable international agreements.</p> <p>Safely demonstrate progression of a vessel through ice, manoeuvring vessel through moderate ice concentration (range of 1/10 to 5/10).</p> <p>Safely demonstrate progression of a vessel through ice, manoeuvring vessel through dense ice concentration (range of 6/10 to 10/10).</p> <p>Operations are planned and carried out in accordance with established rules and procedures to ensure safety of operation and to avoid pollution of the marine environment.</p> <p>Safety of navigation is maintained through navigation strategy and adjustment of ship's speed and heading through different types of ice.</p> <p>Actions are understood to permit use of anchoring system in cold temperatures.</p>

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
	<p>13. Docking and undocking in ice-covered waters, including hazards associated with operation and the various techniques to safely dock and undock in ice-covered waters;</p> <p>14. Anchoring in ice, including the dangers to anchoring system – ice accretion to hawse pipe and ground tackle;</p> <p>15. Recognize conditions which impact polar visibility and may give indication of local ice and water conditions, including sea smoke, water blink and refraction.</p>		<p>Actions are carried out in accordance with accepted principles and procedures to prepare for icebreaker towing, including notch towing.</p>
<p>Maintain safety of the ship's crew and passengers and the operational condition of life-saving, firefighting and other safety systems</p>	<p><i>Knowledge of safety:</i></p> <ol style="list-style-type: none"> 1. Understand the procedures and techniques for abandoning the ship and survival on ice and in ice-covered waters; 2. Recognize limitations of firefighting systems and life-saving appliances due to low air temperatures; 3. Understand unique concerns in conducting emergency drills in ice and low temperatures; 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved training programme 	<p>Response measures are in accordance with established plans and procedures, and are appropriate to the situation and nature of the emergency.</p>

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
	4. Understand unique concerns in conducting emergency response in ice and low air and water temperatures.		

ANNEX 3

DRAFT STCW.6 CIRCULAR

STCW.6/Circ.[...]

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

1 The Maritime Safety Committee, at its [ninety-seventh session (21 to 25 November 2016)], adopted the following amendments to part B of the STCW Code.

2 In section B-I/2, table B-I/2 is replaced with the following:

"Table B-I/2

List of certificates or documentary evidence required under the STCW Convention

The list below identifies all certificates or documentary evidence described in the Convention which authorize the holder to serve in certain functions on board ships. The certificates are subject to the requirements of regulation I/2 regarding language and their availability in original form.

Regulations	Type of certificate and brief description	Endorsement attesting recognition of a certificate¹	Registration required²	Revalidation of certificate³
II/1, II/2, II/3, III/1, III/2, III/3, III/6, IV/2, VII/2	Certificate of Competency – For masters, officers and GMDSS radio operators	Yes	Yes	Yes
II/4, III/4, VII/2	Certificate of Proficiency – For ratings duly certified to be a part of a navigational or engine-room watch	No	Yes	No
II/5, III/5, III/7, VII/2	Certificate of Proficiency – For ratings duly certified as able seafarer deck, able seafarer engine or electro-technical rating	No	Yes	No
V/1-1, V/1-2	Certificate of Proficiency or endorsement to a Certificate of Competency –	Yes	Yes	Yes

Regulations	Type of certificate and brief description	Endorsement attesting recognition of a certificate ¹	Registration required ²	Revalidation of certificate ³
	For masters and officers on oil, chemical or liquefied gas tankers			
V/1-1, V/1-2	Certificate of Proficiency – For ratings on oil, chemical or liquefied gas tankers	No	Yes	No
V/2	Documentary evidence – Training for masters, officers, ratings and other personnel serving on passenger ships	No	No	No ⁴
V/3	Certificate of Proficiency – training for masters, officers, ratings and other personnel on ships subject to the IGF Code	No	Yes	Yes ⁸
V/4	Certificate of Proficiency – for masters and officers on ships operating in polar waters	No	Yes	Yes
VI/1	Certificate of Proficiency ⁵ – Basic training	No	Yes	Yes ⁶
VI/2	Certificate of Proficiency ⁵ – Survival craft, rescue boats and fast rescue boats	No	Yes	Yes ⁶
VI/3	Certificate of Proficiency ⁵ – Advanced firefighting	No	Yes	Yes ⁶
VI/4	Certificate of Proficiency ⁵ – Medical first aid and medical care	No	Yes	No

Regulations	Type of certificate and brief description	Endorsement attesting recognition of a certificate ¹	Registration required ²	Revalidation of certificate ³
VI/5	Certificate of Proficiency – Ship security officer	No	Yes	No
VI/6	Certificate of Proficiency ⁷ – Security awareness training or security training for seafarers with designated security duties	No	Yes	No

Notes:

- ¹ *Endorsement attesting recognition of a certificate* means endorsement in accordance with regulation I/2, paragraph 7.
- ² *Registration required* means as part of register or registers in accordance with regulation I/2, paragraph 14.
- ³ *Revalidation of a certificate* means establishing continued professional competence in accordance with regulation I/11 or maintaining the required standards of competence in accordance with sections A-VI/1 to A-VI/3, as applicable.
- ⁴ As required by regulation V/2, paragraph 3, seafarers who have completed training in "crowd management", "crisis management and human behaviour" or "passenger safety, cargo safety and hull integrity" shall, at intervals not exceeding five years, undertake appropriate refresher training or to provide evidence of having achieved the required standards of competence within the previous five years.
- ⁵ The certificates of competency issued in accordance with regulations II/1, II/2, II/3, III/1, III/2, III/3, III/6 and VII/2 include the proficiency requirements in "basic training", "survival craft and rescue boats other than fast rescue boats", "advanced firefighting" and "medical first aid"; therefore, holders of mentioned certificates of competency are not required to carry Certificates of Proficiency in respect of those competences of chapter VI.
- ⁶ In accordance with sections A-VI/1, A-VI/2 and A-VI/3, seafarers shall provide evidence of having maintained the required standards of competence every five years.
- ⁷ Where security awareness training or training in designated security duties is not included in the qualification for the certificate to be issued.
- ⁸ In accordance with regulation V/3, seafarers shall, at intervals not exceeding five years, undertake appropriate refresher training or be required to provide evidence of having achieved the required standard of competence within the previous five years."