MARINE DEPARTMENT
GOVERNMENT OF THE HONG KONG
SPECIAL ADMINISTRATIVE REGION

# Certificates of Proficiency for

# Ships Operating in Polar Waters Determinations

**(2022 Edition)**

Made under Section 7(1) of the
Merchant Shipping (Seafarers) (Ships Operating in Polar Waters) Regulation (Cap.478AL)

(Rev. 2/2022)

MERCHANT SHIPPING (SEAFARERS) ORDINANCE
(CHAPTER 478)

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Merchant Shipping (Seafarers) (Ships Operating in Polar Waters) Regulation (Cap.478AL)

**Marine Department**
**The Hong Kong Special Administrative Region**
First Edition 2019
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# SECTION 1

## COMMENCEMENT, INTERPRETATION & GENERAL REQUIREMENTS

### 1.1 Commencement

1.1.1 The Certificates of Proficiency for Ships Operating Polar Waters Determinations (the Determinations) are made by the Seafarers' Authority under powers granted by the Merchant Shipping (Seafarers) (Ships Operating in Polar Waters) Regulation (Cap.478AL) and are the second edition that effective on 28 February 2022.

### 1.2 Interpretation

1.2.1 In the Determinations, unless the context otherwise requires:

**"approved"** means approved or recognized by the Director of Marine;

**"Authority"** means the Seafarers' Authority established by section 4(1) of the Merchant Shipping (Seafarers) Ordinance, Cap.478. For the purpose of the Determinations, Director of Marine is the Seafarers' Authority;

**"Certificate of Proficiency in Advanced Training for Ships Operating in Polar Waters"** means an advanced certificate of proficiency issued under section 6(4) including the renewal and replacement certificates of this certificate issued under sections 6(5) and 10 respectively of Cap.478AL;

**"Certificate of Proficiency in Basic Training for Ships Operating in Polar Waters"** means a basic certificate of proficiency issued under section 6(3) including the renewal and replacement certificates of this certificate issued under sections 6(5) and 10 respectively of Cap.478AL;

**"Convention"** means the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as from time to time revised or amended by any revision or amendment to any provision of such Convention that applies to Hong Kong;

**"Director"** means the Director of Marine;

**"equivalent seagoing service"** means the seagoing service which is considered to be equivalent to those seagoing service gained in polar waters, or accepted by the government of a state party to the STCW Convention such as the Great Lakes, Prince William Sound, the Baltic Sea, the Gulf of Bothnia;

**"equivalent waters"** mean the waters of the Great Lakes, Prince William Sound, the Baltic Sea or the Gulf of Bothnia, or areas in which the conditions may arise that are the same extent in polar waters and accepted by the government of a state party to the STCW Convention;

**"ice free waters"** means no ice present. If ice of any kind is present, this term shall not be used;

**"ice of land origin"** means ice formed on land or in an ice shelf, found floating in water;

**"open waters"** means a large area of freely navigable water in which sea ice is present in concentrations less than 1/10. No ice of land origin is present;

**"Polar Code"** means the International Code for Ships Operating in Polar Waters, adopted by International Maritime Organization Resolutions MSC.385(94) and MEPC.264(68), as from time to time revised or amended by any revision or amendment to any provision of such Code that applies to Hong Kong;

**"polar waters"** has the meaning given by Regulation 1 of Chapter XIV of the Annex to the International Convention for the Safety of Life at Sea signed in London on 1 November 1974, or any convention that replaces that Convention or any successor convention, as amended from time to time and as applicable to Hong Kong;

**"specified waters"** means waters other than ice free waters or open waters; and

**"STCW Code"** means the Seafarers' Training, Certification and Watchkeeping Code published by the International Maritime Organization, as from time to time revised or amended by any revision or amendment to any provision of such Code that applies to Hong Kong.

## 1.3 General Requirements

1.3.1 The subsequent sections of the Determinations set out the training and qualification requirements for service on ships operating in polar waters and the conditions to be satisfied by any person to qualify for a certificate of proficiency, the manner in which the attainment of such standards or the satisfaction of such conditions is to be established, the procedure for the application, issue and renewal of a certificate of proficiency.

1.3.2 Any person who feels aggrieved by any decision of the Authority to refuse to issue or renew a certificate of proficiency may appeal against the decision to the Administrative Appeals Board within thirty (30) days of being informed of such decision.

1.3.3 The Director may, at his discretion, permit exemption from any or all of the provisions of the Determinations.

## SECTION 2

## CERTIFICATES OF PROFICIENCY

## GENERAL PROVISIONS

### 2.1 Certificates of Proficiency for Ships Operating in Polar Waters

2.1.1 Certificate of Proficiency means any of the following certificates –

(a) Certificate of Proficiency in Basic Training for Ships Operating in Polar Waters; and

(b) Certificate of Proficiency in Advanced Training for Ships Operating in Polar Waters.

### 2.2 Application

2.2.1 The applicant for a Certificate of Proficiency for Ships Operating in Polar Waters must complete an application form which may be obtained from the Marine Department, Seagoing Examination and Mercantile Marine Office, or by post from:

Marine Department
Seagoing Examination and Mercantile Marine Office
3/F Harbour Building
38 Pier Road
Central
Hong Kong

The application form could also be downloaded from the Marine Department's website (https://www.mardep.gov.hk/en/forms/home.html#seagoing).

2.2.2 Applicants should return the completed application form to the Seagoing Examination and Mercantile Marine Office together with the documents as stated in the application form.

2.2.3 The application must be accompanied by any evidence as may be necessary to establish that the requirements for the issue or renewal of the certificate of proficiency being applied for.

2.2.4 It is important that the correct procedure for application is followed as discharges may have to be forwarded for verification which can take time, and in the absence of such verification the application cannot be processed.

### 2.3 Enquiries

2.3.1 Applicants may make enquiries about their application and when doing so, should ensure that the point on which information is sought is clearly stated. Enquiries should be addressed to:

Seagoing Examination and Mercantile Marine Office
Marine Department

3/F Harbour Building
38 Pier Road
Central
Hong Kong

Tel. No. : (852) 2852 4383
Fax No. : (852) 2541 6754
E-mail : sssem@mardep.gov.hk

**2.4 Particulars of Seagoing Service**

2.4.1 An applicant's eligibility for a certificate of proficiency will depend, amongst other factors, on the amount of seagoing service performed and upon the seagoing ranks in which the applicant has served. It is, therefore, imperative that the particulars which applicants enter on the application form are accurately stated.

2.4.2 The amount of seagoing service set down in the Determinations for the Certificate of Proficiency for Ships Operating in Polar Waters is the **absolute minimum** that can be accepted. Unless applicants can prove the full amount, they will not be issued with a certificate.

**2.5 Use of Information**

2.5.1 Information required by the application form will be used by Marine Department for the process of application for and issue or renewal of certificate. This information may be divulged to other departments and agencies authorised to process the information for the mentioned purposes. Limited personal data of successful applicant may be used via the Marine Department's website for verification of the issued or renewed certificate of proficiency by any third parties.

2.5.2 Supply of information is obligatory. An applicant should ensure that all the information filled in the application form is accurate. Failure to do so may, besides subject to paragraph 2.6, result in an unsuccessful application.

2.5.3 For making correction and access to personal data after submission of application form, an applicant may contact the following officer:

Officer-in-charge
Marine Department
Seagoing Examination and Mercantile Marine Office
3/F Harbour Building
38 Pier Road
Central
Hong Kong

**2.6 Fraud or Misrepresentation**

2.6.1 Applicants are reminded that the Merchant Shipping (Seafarers) (Ships Operating in Polar Waters) Regulation (Cap.478AL) provides that any person who, in connection with an application for the issue or renewal of a certificate of proficiency:

(a) makes a false pretence; or

(b) supplies false information,

knowing it to be false, or not believing it to be true, commits an offence and is liable, amongst other things, to a fine and to imprisonment.

## 2.7 Attempted Bribery

2.7.1 Any applicant who offers an advantage to any officer of the Marine Department shall be guilty of an offence under the Prevention of Bribery Ordinance and shall be liable on summary conviction to a fine and to imprisonment. Such an applicant will not be issued or renewed with a certificate for such a period as may be decided by the Director.

## 2.8 Quality Standards

2.8.1 The education and training courses which an applicant attends to satisfy the training requirements for the issue or renewal of a certificate of proficiency shall generally follow a quality standards system or an alternative system acceptable to the Director. A list of the approved training courses can be found at the Marine Department's website (https://www.mardep.gov.hk/en/pub_services/pdf/crt_course.pdf).

## 2.9 Issue or renewal of Certificate of Proficiency

2.9.1 Applicants who are successful in meeting all the requirements for the issue or renewal of a certificate of proficiency being applied for, will be issued with a certificate of proficiency. When the certificate of proficiency is ready, it will be forwarded by post to the applicant's address as given on the application form unless the applicant wishes to make other arrangements.

2.9.2 To avoid unnecessary delays in the issue or renewal of certificate of proficiency, it is important that applicants should inform the Marine Department promptly of any change to the address given on the application form.

## 2.10 Fees

2.10.1 Applicants for the certificate of proficiency will be required to pay the prescribed fee (presently the fee is NIL) before any steps are taken to verify their eligibility for the issue or renewal of the certificate of proficiency.

## 2.11 Issue of Replacement Certificate of Proficiency

2.11.1 If a Certificate of Proficiency for Ships Operating in Polar Waters is lost, destroyed, damaged or defaced, the holder may apply to the Seagoing Examination and Mercantile Marine Office for a replacement. A fee will be charged (presently the fee is HK$ 155) for the replacement unless the holder can show that the certificate of proficiency was lost as a result of shipwreck or fire on board ship. An applicant for a replacement will be required to submit a completed application form to the Seagoing Examination and Mercantile Marine Office regarding the circumstances in which the certificate of

proficiency was lost. Upon the issue of a replacement certificate of proficiency, the certificate of proficiency that was lost, destroyed, damaged or defaced ceases to be valid.

## SECTION 3

## SEAGOING SERVICE

### 3.1 General

3.1.1 This section specifies provisions relating to qualifying seagoing service and equivalent seagoing service.

3.1.2 Except where otherwise specified, the qualifying seagoing service or equivalent seagoing service required for a Certificate of Proficiency for Ships Operating in Polar Waters is the service performed in ships which operated in polar waters or equivalent waters respectively and which are actively engaged in commercial trading.

3.1.3 Qualifying seagoing service or equivalent seagoing service means time spent on board ship reckoned from the date of engagement to the date of discharge during the period of ship operating in polar waters or equivalent waters respectively. Subject to verification, as and when necessary, certificates of discharge, crew agreement, or seafarer's employment registration book clearly show the relevant information will be accepted as proof of seagoing service or equivalent seagoing service.

3.1.4 Proof of seagoing service or equivalent seagoing service for applicants serving on Hong Kong registered ships can be verified by the Mercantile Marine Office of Marine Department. Seagoing service or equivalent seagoing service on other ships must be confirmed by the Master(s) of the ship(s) concerned, or by the Consul or other recognized authority of the flag State. However, such confirmation will not necessarily be deemed sufficient (sample of report of shipboard service is shown in Appendix II) and further information will be required.

3.1.5 Calculations of voyage length for the purpose of establishing seagoing service or equivalent seagoing service should be made in calendar months and days. When it happens that an applicant has signed off and signed on again on the same day, that day may only be counted once. To calculate total seagoing service or equivalent seagoing service, the length of each voyage when the ship operated in polar waters or equivalent waters should be added together in months and days. The total of days should then be divided by 30 to give months, and residual days. The months should then be added as the total months.

3.1.6 Qualifying equivalent seagoing service is only accepted up to a maximum of 50% of the required period. The remaining seagoing service must be performed on ships operating in polar waters.

## SECTION 4

## QUALIFYING REQUIREMENTS

### 4.1 Certification Requirements for Ships Operating in Polar Waters

4.1.1 There are two levels of training for Ships Operating in Polar Waters: "basic" and "advanced".

4.1.2 Masters, chief mates and officers in charge of a navigational watch are required to hold Certificates of Proficiency in Basic Training for Ships Operating in Polar Waters or Certificates of Proficiency in Advanced Training for Ships Operating in Polar Waters in accordance with Table 1 below.

| Ice conditions | Tankers | Passenger ships | Other |
|---|---|---|---|
| Ice free waters | Not applicable | Not applicable | Not applicable |
| Open waters | Masters, chief mates and officers in charge of a navigational watch are required to hold Certificates of Proficiency in Basic Training for Ships Operating in Polar Waters | Masters, chief mates and officers in charge of a navigational watch are required to hold Certificates of Proficiency in Basic Training for Ships Operating in Polar Waters | Not applicable |
| Specified waters | 1. Masters and chief mates are required to hold Certificates of Proficiency in Advanced Training for Ships Operating in Polar Waters | 1. Masters and chief mates are required to hold Certificates of Proficiency in Advanced Training for Ships Operating in Polar Waters | 1. Masters and chief mates are required to hold Certificates of Proficiency in Advanced Training for Ships Operating in Polar Waters |
| | 2. Officers in charge of a navigational watch are required to hold Certificates of Proficiency in Basic Training for Ships Operating in Polar Waters | 2. Officers in charge of a navigational watch are required to hold Certificates of Proficiency in Basic Training for Ships Operating in Polar Waters | 2. Officers in charge of a navigational watch are required to hold Certificates of Proficiency in Basic Training for Ships Operating in Polar Waters |

Table 1 Certificates of Proficiency for Ships Operating in Polar Waters to be held by masters, chief mates and officers in charge of a navigational watch

## 4.2 Certificate of Proficiency in Basic Training for Ships Operating in Polar Waters

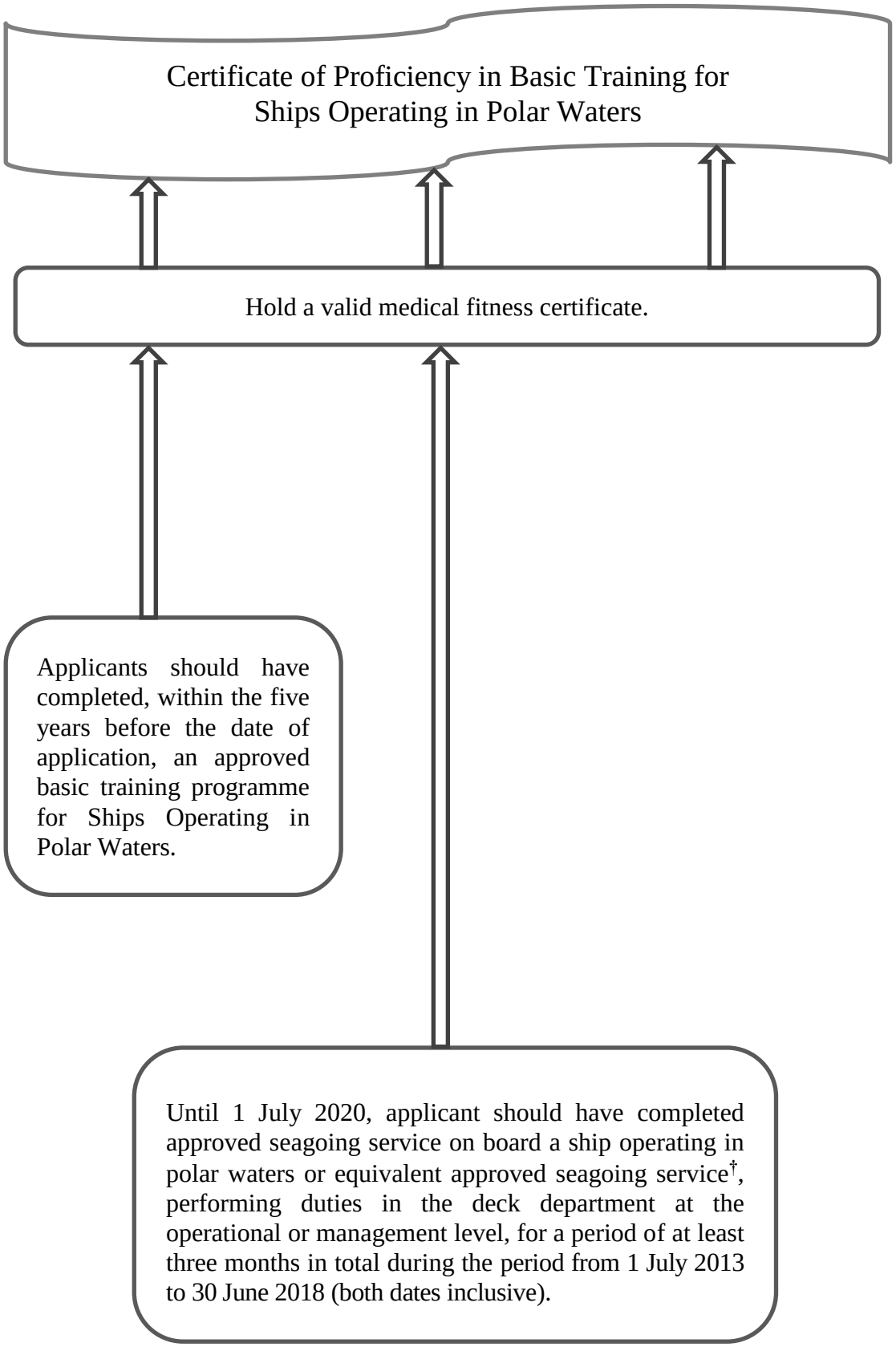
4.2.1 To qualify for the issue of a Certificate of Proficiency in Basic Training for Ships Operating in Polar Waters in Hong Kong, an applicant must:

(a) have completed an approved basic training for Ships Operating in Polar Waters and have met the standard of competence specified in section A-V/4, paragraph 1 of the STCW Code (standard of competence is shown in Appendix I);

or

(b) until 1 July 2020, have 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 period from 1 July 2013 to 30 June 2018 (both dates inclusive).

† Equivalent seagoing service is only accepted up to a maximum of 50% of the required period. The remaining seagoing service must be performed on ships operating in polar waters.




† Equivalent approved seagoing service is only accepted up to a maximum of 50% of the required period. The remaining seagoing service must be performed on ships operating in polar waters.

## 4.3 Certificate of Proficiency in Advanced Training for Ships Operating in Polar Waters

4.3.1 To qualify for the issue of a Certificate of Proficiency in Advanced Training for Ships Operating in Polar Waters in Hong Kong, an applicant must:

(a) (i) met the requirements for certification in basic training for ships in polar waters;

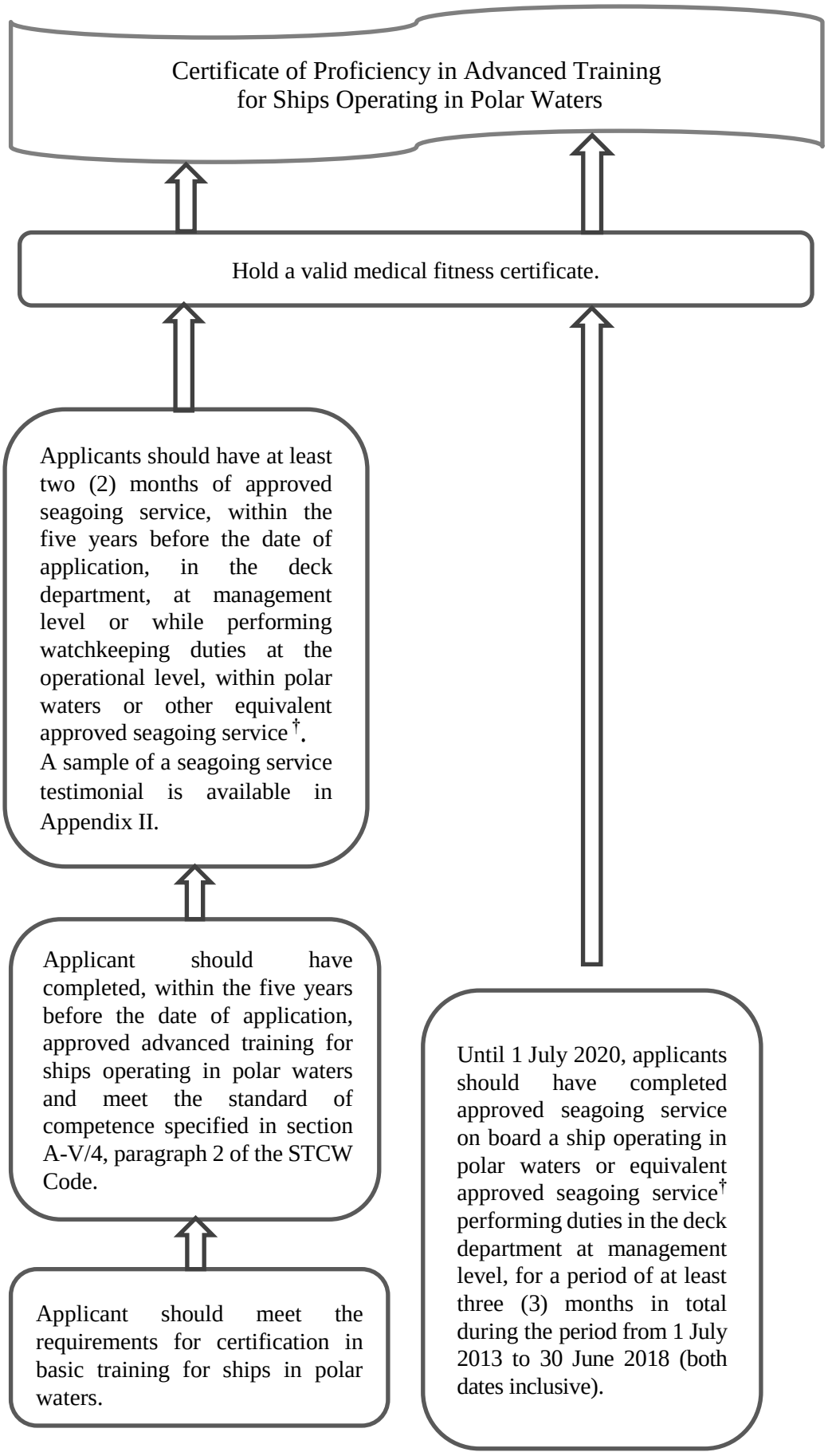
(ii) completed at least two (2) months of approved seagoing service in the deck department, at management level or while performing watchkeeping duties at the operational level, within polar waters or other equivalent approved seagoing service†; and

(iii) 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 (standard of competence is shown in Appendix I);

or

(b) until 1 July 2020, have 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 (3) months in total during the period from 1 July 2013 to 30 June 2018 (both dates inclusive).

† Equivalent approved seagoing service is only accepted up to a maximum of 50% of the required period. The remaining seagoing service must be performed on ships operating in polar waters.




† Equivalent approved seagoing service is only accepted up to a maximum of 50% of the required period. The remaining seagoing service must be performed on ships operating in polar waters.

**4.4 Medical Fitness Certificate**

4.4.1 Proof of medical fitness is an essential requirement for the issue or renewal of any certificate of proficiency. Medical fitness may be proven by the production of a certificate of medical fitness issued not more than two years beforehand by a recognized medical practitioner.

4.4.2 Applicants in Hong Kong may obtain from the Mercantile Marine Office a list of medical practitioners who are approved by the Director to issue medical fitness certificates. The list could also be downloaded from the Marine Department's website (https://www.mardep.gov.hk/en/pub_services/pdf/regmp.pdf).

## SECTION 5

## RENEWAL OF CERTIFICATES OF PROFICIENCY

### 5.1 Renewal of Certificates of Proficiency

5.1.1 Certificate of Proficiency for Ships Operating in Polar Waters is valid for the period of not more than five (5) years from the date of issue.

5.1.2 Any person who wishes to renew his/her Certificate of Proficiency must

(a) produce evidence of at least two (2) months' approved seagoing service on ships operating in polar waters or equivalent approved seagoing service♦ within the last five (5) years for which he/she hold a Certificate of Proficiency, or successfully completed an approved relevant training course, or performed functions considered to be equivalent to the approved seagoing service; or passing an approved test; and

(b) hold an approved and valid medical fitness certificate.

♦ Equivalent approved seagoing service is only accepted up to a maximum of 1 month. The remaining seagoing service must be performed on board ships operating in polar waters.

## APPENDIX I

## STANDARDS OF COMPETENCE

(1): Basic Training for Ships Operating in Polar Waters

Competence (i): Contribute to safe operation of vessels operating in polar waters

| Content of Assessment | Criteria for Satisfactory Assessment |
|---|---|
| Basic knowledge of ice characteristics and areas where different types of ice can be expected in the area of operation: | Identification of ice properties and their characteristics of relevance for safe vessel operation |
| .1 ice physics, terms, formation, growth, ageing and stage of melt | Information obtained from ice information and publications is interpreted correctly and properly applied |
| .2 ice types and concentrations | Use of visible and infrared satellite images |
| .3 ice pressure and distribution | Use of egg charts |
| .4 friction from snow covered ice | Coordination of meteorological and oceanographic data with ice data |
| .5 implications of spray-icing; danger of icing up; precautions to avoid icing up and options during icing up | Measurements and observations of weather and ice conditions are accurate and appropriate for safe passage planning |
| .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 blink and water sky | |
| .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 | |
| Basic knowledge of vessel performance in ice and low air temperature: | Identification of vessel characteristics and limitations under different ice conditions and cold environmental impact |
| .1 vessel characteristics | Procedures are made for risk assessment before entering ice |
| .2 vessel types, hull designs | Awareness of fresh water ballast freezing in ballast tanks |
| .3 engineering requirements for operating in ice | |
| .4 Ice strengthening requirements | |

| | |
|---|---|
| .5 limitations of ice-classes<br><br>.6 winterization and preparedness of vessel, including deck and engine<br><br>.7 low-temperature system performance<br><br>.8 equipment and machinery limitation in ice condition and low air temperature<br><br>.9 monitoring of ice pressure on hull<br><br>.10 sea suction, water intake, superstructure insulation and special systems | 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<br><br>Communications are clear, concise and effective at all times in a seamanlike manner |
| Basic knowledge and ability to operate and manoeuvre a vessel in ice:<br><br>.1 safe speed in the presence of ice and icebergs<br><br>.2 ballast tank monitoring<br><br>.3 cargo operations in polar waters<br><br>.4 awareness of engine loads and cooling problems<br><br>.5 safety procedures during ice transit | Use Polar Code and Polar Water Operations Manual to correctly determine the recommended procedures to load/unload cargo and/or embark/disembark passengers in low temperatures, monitor ballast water for icing, monitor engine temperatures, anchor watch concerns in ice, and transit near ice<br><br>Interpretation and analysis of information from radar is in accordance with lookout procedures with special caution regarding identification of dangerous ice features<br><br>Information obtained from navigational charts, including electronic charts, and publications is relevant, assessed, interpreted correctly and properly applied<br><br>The primary method of position fixing is frequent and the most appropriate for the prevailing conditions and routing through ice<br><br>Performance checks and tests of navigation and communication systems comply with recommendations for high latitude and low air temperature operation |

Competence (ii): Monitor and ensure compliance with legislative requirements

| Content of Assessment | Criteria for Satisfactory Assessment |
|---|---|
| Basic knowledge of regulatory considerations:<br><br>.1 Antarctic Treaty and the Polar Code | Locate and apply relevant parts of the Polar Water Operations Manual |

| | |
|---|---|
| .2 accident reports concerning vessels in polar waters<br><br>.3 IMO standards for operation in remote areas | Communication is in accordance with local/regional and international standard procedures<br><br>Legislative requirements related to relevant regulations, codes and practices are identified |

Competence (iii): Apply safe working practices, respond to emergencies

| Content of Assessment | Criteria for Satisfactory Assessment |
|---|---|
| Basic knowledge of crew preparation, working conditions and safety:<br><br>.1 recognize limitations of search and rescue readiness and responsibility, including sea area A4 and its SAR communication facility limitation<br><br>.2 awareness of contingency planning<br><br>.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<br><br>.4 recognize dangers when crews are exposed to low temperatures<br><br>.5 human factors including cold fatigue, medical-first aid aspects, crew welfare<br><br>.6 survival requirements including the use of personal survival equipment and group survival equipment<br><br>.7 awareness of the most common hull and equipment damages and how to avoid these<br><br>.8 superstructure-deck icing, including effect on stability and trim<br><br>.9 prevention and removal of ice including the factors of accretion<br><br>.10 recognize fatigue problems due to noise and vibrations<br><br>.11 identify need for extra resources, such as bunker, food and extra clothing | Identification and initial actions on becoming aware of hazardous situations for vessel and individual crew members<br><br>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<br><br>Safe working practices are observed and appropriate safety and protective equipment is correctly used at all times<br><br>Response actions are in accordance with established plans and are appropriate to the situation and nature of the emergency<br><br>Correctly identifies and applies legislative requirements related to relevant regulations, codes and practices<br><br>Appropriate safety and protective equipment is correctly used<br><br>Defects and damages are detected and properly reported |

Competence (iv): Ensure compliance with pollution- prevention requirements and prevent environmental hazards

| Content of Assessment | Criteria for Satisfactory Assessment |
|---|---|
| Basic knowledge of environmental factors and regulations:<br><br>.1 identify particularly sensitive sea areas regarding discharge<br><br>.2 identify areas where shipping is prohibited or should be avoided<br><br>.3 special areas defined in MARPOL<br><br>.4 recognize limitations of oil-spill equipment<br><br>.5 plan for coping with increased volumes of garbage, bilge water, sewage, etc.<br><br>.6 lack of infrastructure<br><br>.7 oil spill and pollution in ice, including consequences | Legislative requirements related to relevant regulations, codes and practices are identified<br><br>Correctly identify/select the limitations on vessel discharges contained in the Polar Code<br><br>Correctly apply Polar Water Operations Manual/Waste Management Plan to determine limitations on vessel discharges and plans for storing waste<br><br>Identify references that provide details of areas to be avoided, such as wildlife refuges, ecological heritage parks, migratory pathways, etc. (MARPOL, Antarctic Treaty, etc.)<br><br>Identify factors that must be considered to manage waste stream during polar voyages |

(2): Advanced Training for Ship Operating in Polar Waters

Competence (i): Plan and conduct a voyage in polar waters

| Content of Assessment | Criteria for Satisfactory Assessment |
|---|---|
| Knowledge of voyage planning and reporting:<br><br>.1 information sources<br><br>.2 reporting regimes in polar waters<br><br>.3 development of safe routeing and passage planning to avoid ice where possible<br><br>.4 ability to recognize the limitations of hydrographic information and charts in polar regions and whether the information is suitable for safe navigation<br><br>.5 passage planning deviation and modification for dynamic ice conditions<br><br>Knowledge of equipment limitations | The equipment, charts and nautical publications required for the voyage are enumerated and appropriate to the safe conduct of the voyage<br><br>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<br><br>Voyage plan correctly identified relevant polar regulatory regimes and need for ice-pilotage and/or icebreaker assistance<br><br>All potential navigational hazards are accurately identified |

| | |
|---|---|
| .1 understand and identify hazards associated with limited terrestrial navigational aids in polar regions<br><br>.2 understand and recognize high latitude errors on compasses<br><br>.3 understand and identify limitations in discrimination of radar targets and ice features in ice-clutter<br><br>.4 understand and recognize limitations of electronic positioning systems at high latitude<br><br>.5 understand and recognize limitations in nautical charts and pilot descriptions<br><br>.6 understand and recognize limitations in communication systems | Positions, courses, distances and time calculations are correct within accepted accuracy standards for navigational equipment |

Competence (ii): Manage the safe operation of vessels operating in polar waters

| Content of Assessment | Criteria for Satisfactory Assessment |
|---|---|
| Knowledge and ability to operate and manoeuvre a vessel in ice:<br><br>.1 preparation and risk assessment before approaching ice, including presence of icebergs, and taking into account wind, darkness, swell, fog and pressure ice<br><br>.2 conduct communications with an icebreaker and other vessels in the area and with Rescue Coordination Centres<br><br>.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<br><br>.4 understand and describe ice-ramming procedures including double and single ramming passage<br><br>.5 recognize and determine the need for bridge watch team augmentation based upon environmental conditions, vessel equipment and vessel ice class<br><br>.6 recognize the presentations of the various ice conditions as they appear on radar | 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<br><br>Demonstrate communication skills, request ice routeing, plot and commence voyage through ice<br><br>All potential ice hazards are correctly identified<br><br>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 Polar Code guidelines and applicable international agreements<br><br>Safely demonstrate progression of a vessel through ice, manoeuvring vessel through moderate ice concentration (range of 1/10 to 5/10)<br><br>Safely demonstrate progression of a vessel through ice, manoeuvring vessel through dense ice concentration (range of 6/10 to 10/10) |

| | |
|---|---|
| .7 understand icebreaker convoy terminology, and communications, and take icebreaker direction and move in convoy<br><br>.8 understand methods to avoid besetment and to free beset vessel, and consequences of besetment<br><br>.9 understand towing and rescue in ice, including risks associated with operation<br><br>.10 handling ship in various ice concentration and coverage, including risks associated with navigation in ice, e.g. avoid turning and backing simultaneously<br><br>.11 use of different type of propulsion and rudder systems, including limitations to avoid damage when operating in ice<br><br>.12 use of heeling and trim systems, hazards in connection with ballast and trim in relation with ice<br><br>.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<br><br>.14 anchoring in ice, including the dangers to anchoring system – ice accretion to hawse pipe and ground tackle<br><br>.15 recognize conditions which impact polar visibility and may give indication of local ice and water conditions, including sea smoke, water sky, ice blink and refraction | 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<br><br>Safety of navigation is maintained through navigation strategy and adjustment of ship's speed and heading through different types of ice<br><br>Actions are understood to permit use of anchoring system in cold temperatures<br><br>Actions are carried out in accordance with accepted principles and procedures to prepare for icebreaker towing, including notch towing |

Competence (iii): Maintain safety of the ship's crew and passengers and the operational condition of life-saving, fire-fighting and other safety systems

| **Content of Assessment** | **Criteria for Satisfactory Assessment** |
|---|---|
| Knowledge of safety:<br><br>.1 understand the procedures and techniques for abandoning the ship and survival on ice and in ice-covered waters<br><br>.2 recognize limitations of fire-fighting systems and life-saving appliances due to low air temperatures | Response measures are in accordance with established plans and procedures, and are appropriate to the situation and nature of the emergency |

| | |
|---|---|
| .3 understand unique concerns in conducting emergency drills in ice and low temperatures<br><br>.4 understand unique concerns in conducting emergency response in ice and low air and water temperatures | |

**APPENDIX II**

**SPECIMEN REPORT OF SHIPBOARD SERVICE FOR THE ISSUE OR RENEWAL OF CERTIFICATE OF PROFICIENCY**

## Report of Seagoing Service on board Ships Operating in Polar Waters or equivalent waters[#]

This is to certify that (FULL NAME OF THE OFFICER) has served as (RANK) in M.V. / S.S. between the following dates and . During this time, the ship entered and left the *polar waters / *equivalent waters with details as follows:

| | Entered polar/equivalent waters | Left polar/equivalent waters |
|---|---|---|
| Date: | | |
| Time: | | |
| Longitudes: | | |
| Latitudes: | | |

Signature: _____

Name of Master: _____

Date: _____

Ship Stamp

* Delete as appropriate.

[#] Equivalent waters mean the waters of the Great Lakes, Prince William Sound, the Baltic Sea, the Gulf of Bothnia or areas in which the conditions may arise that are the same extent in polar waters and accepted by the government of a state party to the STCW Convention.