



MARINE DEPARTMENT
GOVERNMENT OF THE HONG KONG
SPECIAL ADMINISTRATIVE REGION

Certificates of Proficiency for
Service on Ships Using Low-flashpoint Fuels
Determinations

(2022 Edition)

Made under Section 7(1) of the
Merchant Shipping (Seafarers) (Ships Using Low-flashpoint Fuels) Regulation (Cap.478AK)

(Rev.2/2022)

MERCHANT SHIPPING (SEAFARERS) ORDINANCE
(CHAPTER 478)

**Certificates of Proficiency for
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Merchant Shipping (Seafarers) (Ships Using Low-flashpoint Fuels) Regulation (Cap.478AK)

**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 Service on Ships Using Low-flashpoint Fuels Determinations (the Determinations) are made by the Seafarers' Authority under powers granted by the Merchant Shipping (Seafarers) (Ships Using Low-flashpoint Fuels) Regulation (Cap.478AK) 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 Service on Ships Using Low-flashpoint Fuels” 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.478AK;

“Certificate of Proficiency in Basic Training for Service on Ships Using Low-flashpoint Fuels” 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.478AK;

“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;

“company”, in relation to a ship, means (a) the registered owner of the ship; or (b) a person who (i) has assumed responsibility for the operation of the ship from the owner; and (ii) on assuming the responsibility, has agreed to take over the obligations imposed on the owner under the STCW Convention;

“Director” means the Director of Marine;

“emergency response duties” are the designated duties associated with the competence on respond to emergencies specified in section A-V/3, table A-V/3-1 of the STCW Code;

“IGF Code” means the International Code of Safety for Ships Using Gases or Other Low-flashpoint Fuels set out in the Annex to Resolution MSC.391(95) adopted by the

Maritime Safety Committee of the International Maritime organization on 11 June 2015, as from time to time revised or amended by any revision or amendment to any provision of such Code that applies to Hong Kong;

“low-flashpoint fuel” means gaseous or liquid fuel that has a flashpoint lower than that permitted under regulation II-2/4.2.1.1 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;

“personnel with immediate responsibility” means the personnel being in a decision making capacity with respect to handling of fuel addressed by the IGF Code or other fuel related operations. Apart from the Master and engineer officers, the company should identify and clearly define in its Safety Management System all personnel with such immediate responsibility;

“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 using low-flashpoint fuels 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 Service on Ships Using Low-flashpoint Fuels

2.1.1 Certificate of Proficiency means any of the following certificates –

- (a) Certificate of Proficiency in Basic Training for Service on Ships Using Low-flashpoint Fuels; and
- (b) Certificate of Proficiency in Advanced Training for Service on Ships Using Low-flashpoint Fuels.

2.2 Application

2.2.1 The applicant for a Certificate of Proficiency for Service on Ships Using Low-flashpoint Fuels 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 Service on Ships Using Low-flashpoint Fuels is the **absolute minimum** that can be accepted. Unless applicants can prove the full amount they will not be issued with a certificate of proficiency.

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 Using Low-flashpoint Fuels) Regulation (Cap.478AK) 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 with a certificate of proficiency 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 attended 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 prescribe fee (presently the fee is NIL) before any steps are taken to verify their eligibility for the issue or renewal of the certificate of competency.

2.11 Issue of Replacement Certificate of Proficiency

- 2.11.1 If a Certificate of Proficiency for Service on Ships Using Low-flashpoint Fuels 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.
- 3.1.2 Except where otherwise specified, the qualifying seagoing service required for a Certificate of Proficiency for Service on Ships Using Low-flashpoint Fuels is the service performed on board ships using low-flashpoint fuels or tankers carrying cargo, fuels covered by the IGF Code which proceed to sea and which are actively engaged in commercial trading.
- 3.1.3 Qualifying seagoing service means time spent on board ship reckoned from the date of engagement to the date of discharge. 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.
- 3.1.4 Proof of seagoing service for applicants serving on Hong Kong registered ships can be verified by the Mercantile Marine Office of Marine Department. 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 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, the length of each voyage 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.

SECTION 4

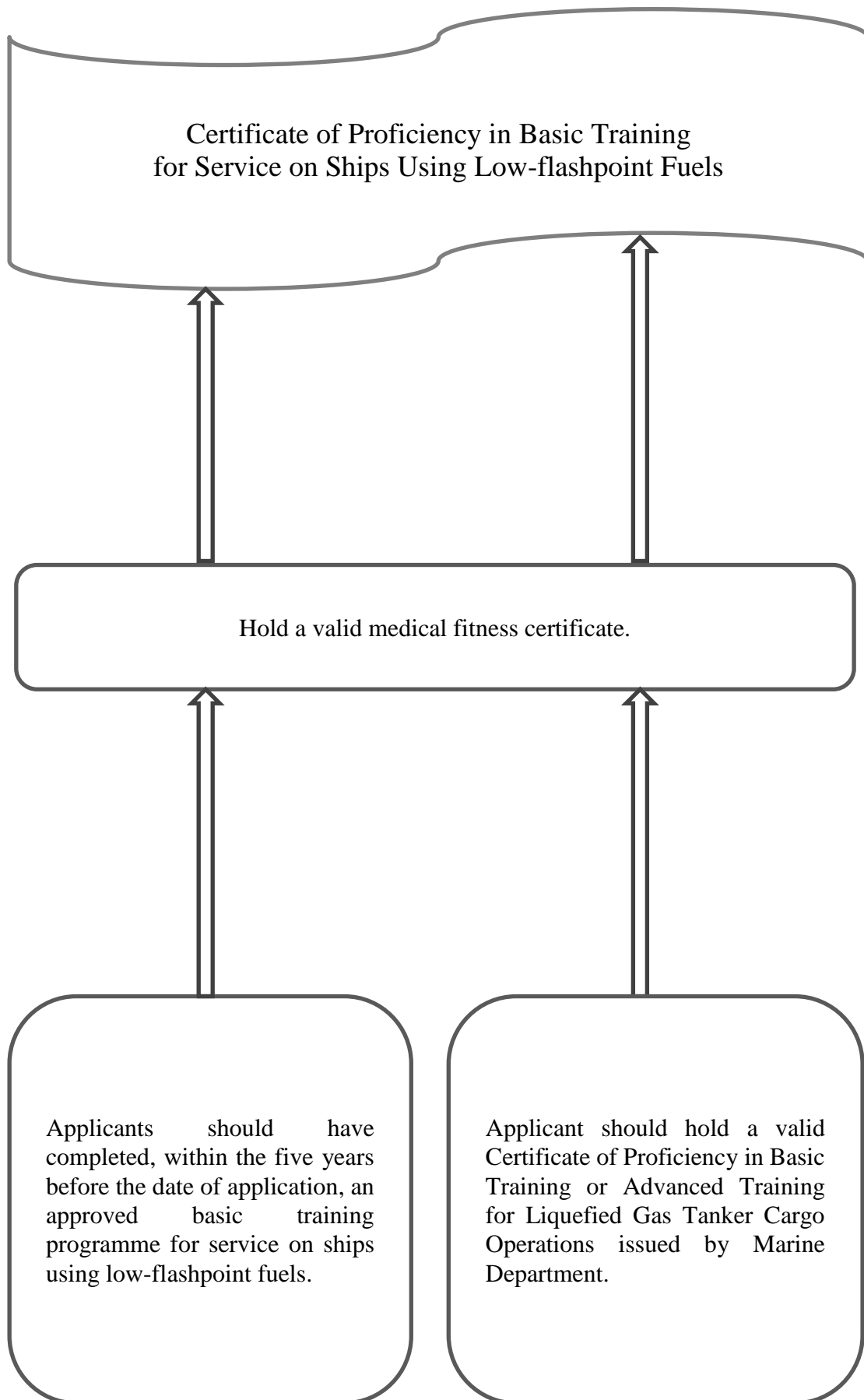
QUALIFYING REQUIREMENTS

4.1 Certification Requirements for Service on Ships Using Low-flashpoint Fuels

- 4.1.1 There are two levels of training for Service on Ships Using Low-flashpoint Fuels: “basic” and “advanced”.
- 4.1.2 For a seafarer responsible for designated safety duties associated with the care, use or in emergency response in relation to the fuel on board a ship using low-flashpoint fuels, he/she is required to hold a Certificate of Proficiency in Basic Training for Service on Ships Using Low-flashpoint Fuels before being assigned to undertake and while undertaking any of those duties on the ship.
- 4.1.3 The master, every engineer officer of a ship and every other seafarer who has the immediate responsibility for the care or use of fuels or fuel systems on the ship using low-flashpoint fuels are required to hold a Certificate of Proficiency in Advanced Training for Service on Ships Using Low-flashpoint Fuels before being assigned to undertake and while undertaking any of those duties on the ship.

4.2 Certificate of Proficiency in Basic Training for Service on Ships Using Low-flashpoint Fuels

- 4.2.1 To qualify for the issue of a Certificate of Proficiency in Basic Training for Service on Ships Using Low-flashpoint Fuels in Hong Kong, an applicant must:
- (a) have completed an approved basic training for service on ships using low-flashpoint fuels and have met the standard of competence specified in section A-V/3, paragraphs 1.1.1 & 1.1.2 of the STCW Code (standard of competence is shown in Appendix I);
 - or
 - (b) hold a valid Certificate of Proficiency in Basic or Advanced Training for Liquefied Gas Tanker Cargo Operations issued by Marine Department.



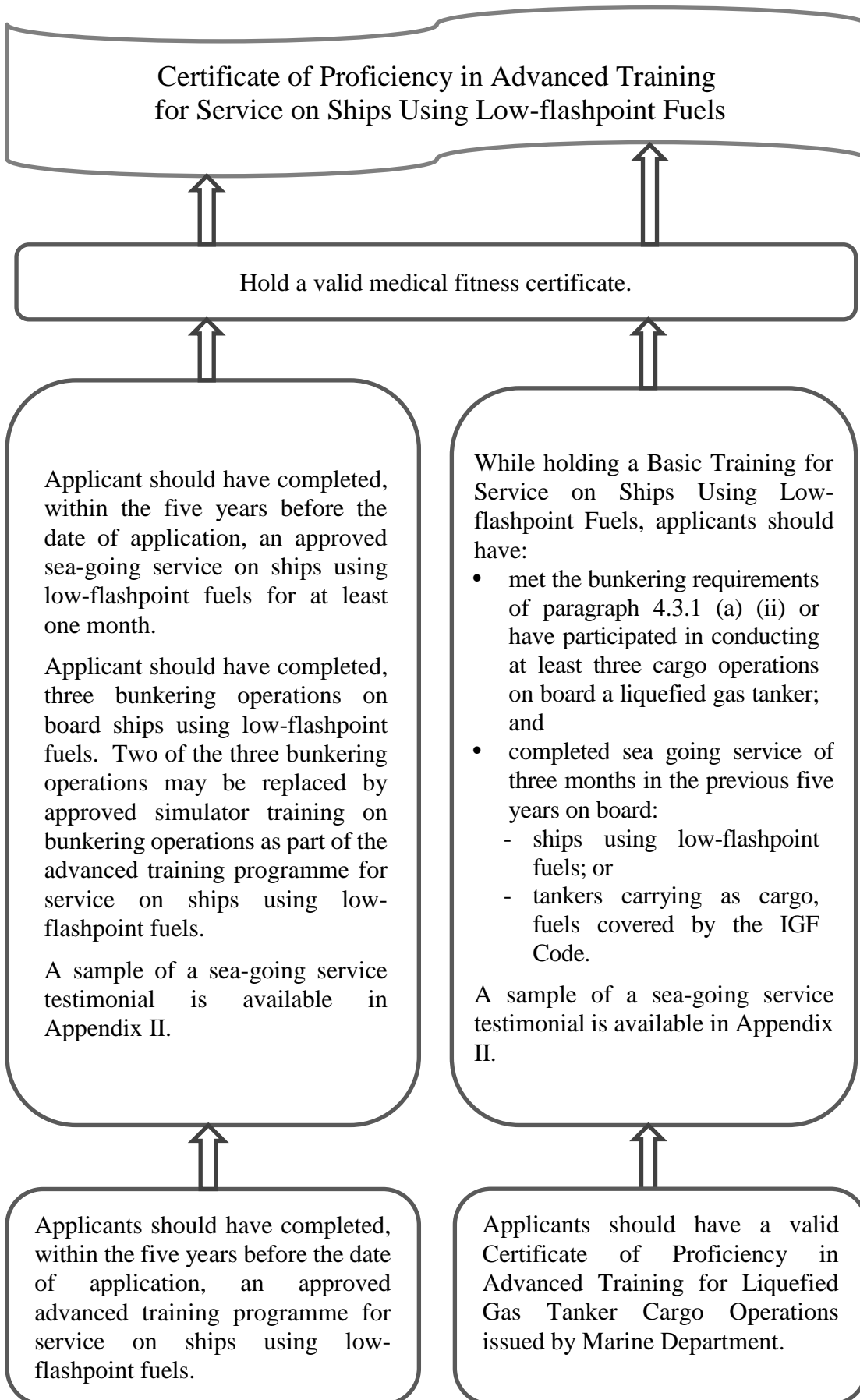
4.3 Certificate of Proficiency in Advanced Training for Service on Ships Using Low-flashpoint Fuels

4.3.1 To qualify for the issue of a Certificate of Proficiency in Advanced Training for Service on Ships Using Low-flashpoint Fuels in Hong Kong, an applicant must have:

- (a) (i) completed an approved advanced training for service on ships using low-flashpoint fuels and have met the standard of competence specified in section A-V/3, paragraphs 2.1.1 & 2.1.2 of the STCW Code (standard of competence is shown in Appendix I); and
- (ii) completed at least one month of approved seagoing service that includes a minimum of three bunkering operations on board ships using low-flashpoint fuels. Two of the three bunkering operations may be replaced by approved simulator training on bunkering operations as part of the training in paragraph (a) (i) above;

or

- (b) (i) held a valid Certificate of Proficiency in Advanced Training for Liquefied Gas Tanker Cargo Operations issued by Marine Department; and
- (ii) also:
 - (A) held a valid Certificate of Proficiency in Basic Training for Service on Ships Using Low-flashpoint Fuels issued by Marine Department;
 - (B) met the bunkering requirements of paragraph (a) (ii) above or have participated in conducting at least three cargo operations on board a liquefied gas tanker; and
 - (C) completed sea going service of three months in the previous five years on board:
 - ships using low flashpoint fuel as fuel; or
 - tankers carrying as cargo, fuels covered by the IGF Code.



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 Service on Ships Using Low-flashpoint Fuels 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 three (3) months' seagoing service within the last five (5) years on board ships using low-flashpoint fuels or tankers carrying as cargo, fuels covered by the IGF Code for which he/she hold a Certificate of Proficiency, or successfully completed an approved relevant training course; and
- (b) hold an approved and valid medical fitness certificate.

APPENDIX I

STANDARDS OF COMPETENCE

(1): Basic Training for Service on Ships Using Low-flashpoint Fuels

Competence (i): Contribute to the safe operation of a ship subject to the IGF Code

Content of Assessment	Criteria for Satisfactory Assessment
<p>Design and operational characteristics of ships subject to the IGF Code</p> <p>Basic knowledge of ships subject to the IGF Code, their fuel systems and fuel storage systems:</p> <p>.1 fuels addressed by the IGF Code</p> <p>.2 types of fuel systems subject to the IGF Code</p> <p>.3 atmospheric, cryogenic or compressed storage of fuels on board ships subject to the IGF Code</p> <p>.4 general arrangement of fuel storage systems on board ships subject to the IGF Code</p> <p>.5 hazard zones and areas</p> <p>.6 typical fire safety plan</p> <p>.7 monitoring, control and safety systems aboard ships subject to the IGF Code</p> <p>Basic knowledge of fuels and fuel storage systems' operations on board ships subject to the IGF Code:</p> <p>.1 piping systems and valves</p> <p>.2 atmospheric, compressed or cryogenic storage</p> <p>.3 relief systems and protection screens</p> <p>.4 basic bunkering operations and bunkering systems</p> <p>.5 protection against cryogenic accidents</p> <p>.6 fuel leak monitoring and detection</p> <p>Basic knowledge of the physical properties of fuels on board ships subject to the IGF Code, including:</p>	<p>Communications within the area of responsibility are clear and effective</p> <p>Operations related to ships subject to the IGF Code are carried out in accordance with accepted principles and procedures to ensure safety of operations</p>

<p>.1 properties and characteristics</p> <p>.2 pressure and temperature, including vapour pressure/ temperature relationship</p> <p>Knowledge and understanding of safety requirements and safety management on board ships subject to the IGF Code</p>	
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Competence (ii): Take precautions to prevent hazards on a ship subject to the IGF Code

Content of Assessment	Criteria for Satisfactory Assessment
<p>Basic knowledge of the hazards associated with operations on ships subject to the IGF Code, including:</p> <p>.1 health hazards</p> <p>.2 environmental hazards</p> <p>.3 reactivity hazards</p> <p>.4 corrosion hazards</p> <p>.5 ignition, explosion and flammability hazards</p> <p>.6 sources of ignition</p> <p>.7 electrostatic hazards</p> <p>.8 toxicity hazards</p> <p>.9 vapour leaks and clouds</p> <p>.10 extremely low temperatures</p> <p>.11 pressure hazards</p> <p>.12 fuel batch differences</p> <p>Basic knowledge of hazard controls:</p> <p>.1 emptying, inerting, drying and monitoring techniques</p> <p>.2 anti-static measures</p> <p>.3 ventilation</p> <p>.4 segregation</p> <p>.5 inhibition</p> <p>.6 measures to prevent ignition, fire and explosion</p>	<p>Correctly identifies, on a Safety Data Sheet (SDS), relevant hazards to the ship and to personnel, and takes the appropriate actions in accordance with established procedures</p> <p>Identification and actions on becoming aware of a hazardous situation conform to established procedures in line with best practice</p>

<p>.7 atmospheric control</p> <p>.8 gas testing</p> <p>.9 protection against cryogenic damages (LNG)</p> <p>Understanding of fuel characteristics on ships subject to the IGF Code as found on a Safety Data Sheet (SDS)</p>	
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Competence (iii): Apply occupational health and safety precautions and measures

Content of Assessment	Criteria for Satisfactory Assessment
<p>Awareness of function of gas-measuring instruments and similar equipment:</p> <p>.1 gas testing</p> <p>Proper use of specialized safety equipment and protective devices, including:</p> <p>.1 breathing apparatus</p> <p>.2 protective clothing</p> <p>.3 resuscitators</p> <p>.4 rescue and escape equipment</p> <p>Basic knowledge of safe working practices and procedures in accordance with legislation and industry guidelines and personal shipboard safety relevant to ships subject to the IGF Code, including:</p> <p>.1 precautions to be taken before entering hazardous spaces and zones</p> <p>.2 precautions to be taken before and during repair and maintenance work</p> <p>.3 safety measures for hot and cold work</p> <p>Basic knowledge of first aid with reference to a Safety Data Sheet (SDS)</p>	<p>Procedures and safe working practices designed to safeguard personnel and the ship are observed at all times</p> <p>Appropriate safety and protective equipment is correctly used</p> <p>First aid dos and don'ts</p>

Competence (iv): Carry out firefighting operations on a ship subject to the IGF Code

Content of Assessment	Criteria for Satisfactory Assessment
<p>Fire organization and action to be taken on ships subject to the IGF Code</p> <p>Special hazards associated with fuel systems and fuel handling on ships subject to the IGF Code</p>	<p>Initial actions and follow-up actions on becoming aware of an emergency conform with established practices and procedures</p>

<p>Firefighting agents and methods used to control and extinguish fires in conjunction with the different fuels found on board ships subject to the IGF Code</p> <p>Firefighting system operations</p>	<p>Action taken on identifying muster signals is appropriate to the indicated emergency and complies with established procedures</p> <p>Clothing and equipment are appropriate to the nature of the firefighting operations</p> <p>The timing and sequence of individual actions are appropriate to the prevailing circumstances and conditions</p> <p>Extinguishment of fire is achieved using appropriate procedures techniques and firefighting agents</p>
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Competence (v): Respond to emergencies

Content of Assessment	Criteria for Satisfactory Assessment
<p>Basic knowledge of emergency procedures, including emergency shutdown</p>	<p>The type and impact of the emergency is promptly identified and the response actions conform to the emergency procedures and contingency plans</p>

Competence (vi): Take precautions to prevent pollution of the environment from the release of fuels found on ships subject to the IGF Code

Content of Assessment	Criteria for Satisfactory Assessment
<p>Basic knowledge of measures to be taken in the event of leakage/spillage/ venting of fuels from ships subject to the IGF Code, including the need to:</p> <p>.1 report relevant information to the responsible persons</p> <p>.2 awareness of shipboard spill/leakage/venting response procedures</p> <p>.3 awareness of appropriate personal protection when responding to a spill/ leakage of fuels addressed by the IGF Code</p>	<p>Procedures designed to safeguard the environment are observed at all times</p>

(2): Advanced Training for Service on Ships Using Low-flashpoint Fuels

Competence (i): Familiarity with physical and chemical properties of fuels aboard ships subject to the IGF Code

Content of Assessment	Criteria for Satisfactory Assessment
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<p>Basic knowledge and understanding of simple chemistry and physics and the relevant definitions related to safe bunkering and use of fuels used on board ships subject to the IGF Code, including:</p> <ol style="list-style-type: none"> .1 the chemical structure of different fuels used on board ships subject to the IGF Code .2 the properties and characteristics of fuels used on board ships subject to the IGF Code, including: <ol style="list-style-type: none"> .2.1 simple physical laws .2.2 states of matter .2.3 liquid and vapour densities .2.4 boil-off and weathering of cryogenic fuels .2.5 compression and expansion of gases .2.6 critical pressure and temperature of gases .2.7 flashpoint, upper and lower flammable limits, auto-ignition temperature .2.8 saturated vapour pressure/ reference temperature .2.9 dewpoint and bubble point .2.10 hydrate formation .2.11 combustion properties: heating values .2.12 methane number/ knocking .2.13 pollutant characteristics of fuels addressed by the IGF Code .3 the properties of single liquids .4 the nature and properties of solutions .5 thermodynamic units .6 basic thermodynamic laws and diagrams .7 properties of materials 	<p>Effective use is made of information resources for identification of properties and characteristics of fuels addressed by the IGF Code and their impact on safety, environmental protection and ship operation</p>
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.8 effect of low temperature, including brittle fracture, for liquid cryogenic fuels	
Understanding the information contained in a Safety Data Sheet (SDS) about fuels addressed by the IGF Code	

Competence (ii): Operate controls of fuel related to propulsion plant and engineering systems and services and safety devices on ships subject to the IGF Code

Content of Assessment	Criteria for Satisfactory Assessment
Operating principles of marine power plants	Plant, auxiliary machinery and equipment is operated in accordance with technical specifications and within safe operating limits at all times
Ships' auxiliary machinery	
Knowledge of marine engineering terms	

Competence (iii): Ability to safely perform and monitor all operations related to the fuels used on board ships subject to the IGF Code

Content of Assessment	Criteria for Satisfactory Assessment
Design and characteristics of ships subject to the IGF Code	Communications are clear and understood
Knowledge of ship design, , systems, and equipment found on ships subject to the IGF Code, including:	Successful vessel operations using fuels addressed by the IGF Code are carried out in a safe manner, taking into account ship designs, systems and equipment
.1 fuel systems for different propulsion engines	Pumping operations are carried out in accordance with accepted principles and procedures and are relevant to the type of fuel
.2 general arrangement and construction	
.3 fuel storage systems on board ships subject to the IGF Code, including materials of construction and insulation	Operations are planned, risk is managed and carried out in accordance with accepted principles and procedures to ensure safety of operations and to avoid pollution of the marine environment
.4 fuel-handling equipment and instrumentations on board ships:	
.4.1 fuel pumps and pumping arrangements	
.4.2 fuel pipelines	
.4.3 expansion devices	
.4.4 flame screens	
.4.5 temperature monitoring systems	
.4.6 fuel tank level-gauging systems	
.4.7 tank pressure monitoring and control systems	

<p>.5 cryogenic fuel tanks temperature and pressure maintenance</p> <p>.6 fuel system atmosphere control systems (inert gas, nitrogen), including storage, generation and distribution</p> <p>.7 toxic and flammable gas-detecting systems</p> <p>.8 fuel Emergency Shut Down system (ESD)</p> <p>Knowledge of fuel system theory and characteristics, including types of fuel system pumps and their safe operation on board ships subject to the IGF Code</p> <p>.1 low pressure pumps</p> <p>.2 high pressure pumps</p> <p>.3 vaporizers</p> <p>.4 heaters</p> <p>.5 pressure build-up units</p> <p>Knowledge of safe procedures and checklists for taking fuel tanks in and out of service, including:</p> <p>.1 inerting</p> <p>.2 cooling down</p> <p>.3 initial loading</p> <p>.4 pressure control</p> <p>.5 heating of fuel</p> <p>.6 emptying systems</p>	
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Competence (iv): Plan and monitor safe bunkering, stowage and securing of the fuel on board ships subject to the IGF Code

Content of Assessment	Criteria for Satisfactory Assessment
<p>General knowledge of ships subject to the IGF Code</p> <p>Ability to use all data available on board related to bunkering, storage and securing of fuels addressed by the IGF Code</p>	<p>Fuel quality and quantity is determined taking into account the current conditions and necessary corrective safe measures are taken</p> <p>Procedures for monitoring safety systems to ensure that all alarms are detected promptly and acted upon in accordance with established procedures</p>

<p>Ability to establish clear and concise communications and between the ship and the terminal, truck or the bunker-supply ship</p> <p>Knowledge of safety and emergency procedures for operation of machinery, fuel-and control systems for ships subject to the IGF Code</p> <p>Proficiency in the operation of bunkering systems on board ships subject to the IGF Code including:</p> <ul style="list-style-type: none"> .1 bunkering procedures .2 emergency procedures .3 ship-shore/ship-ship interface .4 prevention of rollover <p>Proficiency to perform fuel-system measurements and calculations, including:</p> <ul style="list-style-type: none"> .1 Maximum fill quantity .2 On Board Quantity (OBQ) .3 Minimum Remain On Board (ROB) .4 fuel consumption calculations <p>Ability to ensure the safe management of bunkering and other IGF Code fuel related operations concurrent with other on board operations, both in port and at sea</p>	<p>Operations are planned and carried out in accordance with bunkering manuals and/or fuel transfer manual and procedures to ensure safety of operations and avoid spill damages and pollution of the environment</p> <p>Personnel are allocated duties and informed of procedures and standards of work to be followed, in a manner appropriate to the individuals concerned and in accordance with safe working procedures</p>
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Competence (v): Take precautions to prevent pollution of the environment from the release of fuels from ships subject to the IGF Code

Content of Assessment	Criteria for Satisfactory Assessment
<p>Knowledge of the effects of pollution on human and environment</p> <p>Knowledge of measures to be taken in the event of spillage/leakage/venting</p>	<p>Procedures designed to safeguard the environment are observed at all times</p>

Competence (vi): Monitor and control compliance with legislative requirements

Content of Assessment	Criteria for Satisfactory Assessment
<p>Knowledge and understanding of relevant provisions of the International Convention for the Prevention of Pollution from Ships (MARPOL), as amended and other relevant IMO instruments, industry guidelines and port regulations as commonly applied</p>	<p>The handling of fuels on board ships subject to the IGF Code complies with relevant IMO instruments and established industrial standards and codes of safe working practices</p>

Proficiency in the use of the IGF Code and related documents	Operations are planned and performed in conformity with approved procedures and legislative requirements
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Competence (vii): Take precautions to prevent hazards

Content of Assessment	Criteria for Satisfactory Assessment
<p>Knowledge and understanding of the hazards and control measures associated with fuel system operations on board ships subject to the IGF Code, including:</p> <ul style="list-style-type: none"> .1 flammability .2 explosion .3 toxicity .4 reactivity .5 corrosivity .6 health hazards .7 inert gas composition .8 electrostatic hazards .9 pressurized gases .10 low temperature <p>Proficiency to calibrate and use monitoring and fuel detection systems, instruments and equipment on board ships subject to the IGF Code</p> <p>Knowledge and understanding of dangers of non-compliance with relevant rules/regulations</p> <p>Knowledge and understanding of risks assessment method analysis on board ships subject to the IGF Code</p> <p>Ability to elaborate and develop risks analysis related to risks on board ships subject to the IGF Code</p> <p>Ability to elaborate and develop safety plans and safety instructions for ships subject to the IGF Code</p> <p>Knowledge of hot work, enclosed spaces and tank entry including permitting procedures</p>	<p>Relevant hazards to the ship and to personnel associated with operations on board ships subject to the IGF Code are correctly identified and proper control measures are taken</p> <p>Use of flammable and toxic gas-detection devices are in accordance with manuals and good practice</p>

Competence (viii): Apply occupational health and safety precautions and measures on board a ship subject to the IGF Code

Content of Assessment	Criteria for Satisfactory Assessment
Proper use of safety equipment and protective devices, including:	Appropriate safety and protective equipment is correctly used

<p>.1 breathing apparatus and evacuating equipment</p> <p>.2 protective clothing and equipment</p> <p>.3 resuscitators</p> <p>.4 rescue and escape equipment</p> <p>Knowledge of safe working practices and procedures in accordance with legislation and industry guidelines and personal shipboard safety including:</p> <p>.1 precautions to be taken before, during and after repair and maintenance work on fuel systems addressed in the IGF Code</p> <p>.2 electrical safety (ref to IEC 600079-17)</p> <p>.3 ship/shore safety checklist</p> <p>Basic knowledge of first aid with reference to a Safety Data Sheets (SDS) for fuels addressed by the IGF Code</p>	<p>Procedures designed to safeguard personnel and the ship are observed at all times</p> <p>Working practices are in accordance with legislative requirements, codes of practice, permits to work and environmental concerns</p> <p>First aid do's and don'ts</p>
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Competence (ix): Knowledge of the prevention, control and firefighting and extinguishing systems on board ships subject to the IGF Code

Content of Assessment	Criteria for Satisfactory Assessment
<p>Knowledge of the methods and firefighting appliances to detect, control and extinguish fires of fuels addressed by the IGF Code</p>	<p>The type and scale of the problem is promptly identified, and initial actions conform with the emergency procedures for fuels addressed by the IGF Code</p> <p>Evacuation, emergency shutdown and isolation procedures are appropriate to the fuels addressed by the IGF Code</p>

APPENDIX II

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

For the Issue / Renewal* of Certificate of Proficiency

A. Report of Seagoing Service and Training on Board Ships Using Low-flashpoint Fuels or Tankers Carrying as Cargo, Fuels covered by the IGF Code

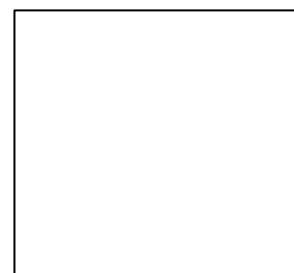
This is to certify that _____ (FULL NAME OF THE OFFICER) has served as _____ (RANK) in M.V. / S.S. _____, a ship using low-flashpoint fuels / a tanker carrying as cargo, fuels covered by the IGF Code*, between the following dates and _____. During this time, the ship used the following type(s) of fuel:

B. Report of participation in bunkering / cargo operation on board (for the issue of Certificate of Proficiency in Advanced Training for Service on Ships Using Low-flashpoint Fuels only)

Furthermore, _____ (FULL NAME OF THE OFFICER) has completed _____ (how many) bunkering operations / has participated in conducting _____ (how many) cargo operations* during his service on board with the period as mentioned above.

Signature: _____
Name of Chief Engineer: _____
Date: _____

Signature: _____
Name of Master: _____
Date: _____



Ship Stamp

* Delete as appropriate