RESOLUTION MSC.562(108)
(adopted on 23 May 2024)

STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR FISHING VESSEL PERSONNEL CODE (STCW-F CODE)

THE MARITIME SAFETY COMMITTEE,

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

RECOGNIZING the importance of establishing detailed mandatory standards of competence and other mandatory provisions necessary to ensure that all fishing vessel personnel shall be properly educated and trained, adequately experienced, skilled and competent to perform their duties in a manner which provides for the safety of life and property at sea and the protection of the marine environment,

RECOGNIZING ALSO the need to allow for the timely amendment of such mandatory standards and provisions in order to effectively respond to changes in technology, operations, practices and procedures used on board fishing vessels,

BEARING IN MIND that a large percentage of maritime casualties and pollution incidents are caused by human error,

APPRECIATING that one effective means of reducing the risks associated with human error in the operation of seagoing fishing vessels is to ensure that the highest practicable standards of training, certification and competence are maintained in respect of fishing vessel personnel employed on such vessels,

DESIRING to achieve and maintain the highest practicable standards for the safety of life and property at sea and in port and for the protection of the environment,

NOTING resolution MSC.561(108), by which it adopted amendments to the annex to the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel, 1995 (1995 STCW-F Convention) which make the provisions of part A of the Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel Code (STCW-F Code) mandatory under the Convention,

HAVING CONSIDERED, at its 108th session, the draft STCW-F Code, comprised of part A (Mandatory standards regarding provisions of the annex to the 1995 STCW-F Convention) and part B (Recommended guidance regarding provisions of the annex to the 1995 STCW-F Convention),

NOTING that regulation I/1.2 of the revised annex to the 1995 STCW-F Convention provides that part A of the STCW-F Code supplements the regulations annexed to the Convention and that any reference to a requirement in a regulation also constitutes a reference to the corresponding section of part A of the STCW-F Code,

1 ADOPTS:

.1 part A (Mandatory standards regarding provisions of the annex to the 1995 STCW-F Convention) of the Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel Code (STCW-F Code), set out in annex 1 to the present resolution;

.2 part B (Recommended guidance regarding provisions of the annex to the 1995 STCW-F Convention) of the Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel Code (STCW-F Code), set out in annex 2 to the present resolution;

2 INVITES Parties to the 1995 STCW-F Convention to note:

.1 that the provisions of part A of the STCW-F Code will take effect for each Party to the Convention on the same date and in the same manner as the amendments to the annex to that Convention adopted by resolution MSC.561(108);

.2 that the guidance contained in part B of the STCW-F Code should be taken into account by all Parties to the Convention as from the date of entry into force of the amendments to the annex to that Convention adopted by resolution MSC.561(108).

3 REQUESTS the Secretary-General to transmit certified copies of the present resolution and the text of the STCW-F Code contained in annexes 1 and 2 to all Parties to the 1995 STCW-F Convention;

4 ALSO REQUESTS the Secretary-General to transmit copies of this resolution and its annexes to Members of the Organization which are not Parties to the 1995 STCW-F Convention.

ANNEX 1

STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR FISHING VESSEL PERSONNEL CODE (STCW-F CODE)

Part A
Mandatory standards regarding provisions of the annex to the 1995 STCW-F Convention

Introduction

1 This part of the STCW-F Code contains mandatory provisions to which specific reference is made in the annex to the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel, 1995, as amended, hereinafter referred to as the 1995 STCW-F Convention. These requirements provide the minimum standards required to be maintained by Parties in order to give full and complete effect to the Convention.

2 Also contained in this part are standards of competence required to be demonstrated by candidates for the issue and revalidation of certificates of competency under the provisions of the 1995 STCW-F Convention. The abilities specified in the standards of competence are grouped, as appropriate, under the following seven functions:

.1-F Navigation

.2-F Catch handling and stowage

.3-F Controlling the operation of the vessel and care for persons on board

.4-F Marine engineering

.5-F Electrical, electronic and control engineering

.6-F Maintenance and repair

.7-F Radiocommunications

at the following levels of responsibility:

.1 Management level

.2 Operational level

.3 Support level

Functions and levels of responsibility are identified by the subtitle in the tables of standards of competence given in chapter II of this part. The scope of the function at the level of responsibility stated in a subtitle is defined by the abilities listed under it in column 1 of the table. The meaning of "function" and "level of responsibility" is defined in general terms in section A-I/1 below.

3 The numbering of the sections of this part corresponds with the numbering of the regulations contained in the annex to the 1995 STCW-F Convention. The text of the sections may be divided into numbered parts and paragraphs, but such numbering is unique to that text alone.

Chapter I
Standards regarding general provisions

Section A-I/1
Definitions

1 The definitions and clarifications contained in article II and regulation I/1 apply equally to the terms used in parts A and B of this Code. In addition, the following supplementary definitions apply only to this Code:

.1 *Standard of competence* means the level of proficiency to be achieved for the proper performance of functions on board vessels in accordance with the internationally agreed criteria as set forth herein and incorporating prescribed standards or levels of knowledge, understanding and demonstrated skill;

.2 *Management level* means the level of responsibility associated with:

.1 serving as skipper, chief engineer officer or second engineer officer on board a fishing vessel; and

.2 ensuring that all functions within the designated area of responsibility are properly performed;

.3 *Operational level* means the level of responsibility associated with:

.1 serving as officer in charge of a navigational or engineer watch or as radio operator on board a fishing vessel; and

.2 maintaining direct control over the performance of all functions within the designated area of responsibility in accordance with proper procedures and under the direction of an individual serving in the management level for that area of responsibility;

.4 *Support level* means the level of responsibility associated with performing assigned tasks, duties or responsibilities on board a fishing vessel under the direction of an individual serving in the operational or management level; and

.5 *Evaluation criteria* are the entries appearing in column 4 of the "Specification of Minimum Standard of Competence" tables in part A and provide the means for an assessor to judge whether or not a candidate can perform the related tasks, duties and responsibilities.

Section A-I/2
Application

(No provisions)

Section A-I/3
Certificates and endorsements

1 When provided in regulation I/3, paragraph 2, the certificate shall be issued in the format 1 to 3, as shown below.

Format 1

The format used to attest the issue of a certificate shall be as shown below, provided that the words "or until the date of expiry of any extension of the validity of this certificate as may be shown overleaf" appearing on the front of the form and the provisions for recording extension of the validity appearing on the back of the form are omitted where the certificate is required to be replaced upon its expiry.

(Official seal)

(COUNTRY)

**CERTIFICATE ISSUED UNDER THE PROVISIONS OF
THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING,
CERTIFICATION AND WATCHKEEPING FOR FISHING VESSEL PERSONNEL, 1995**

The Government of . . . . . certifies that the holder of this certificate has been found duly qualified in accordance with the provisions of regulation . . . . . of the above Convention and has been found competent to serve as specified below, subject to any limitations indicated until . . . . . or until the date of expiry of any extension of the validity of this certificate as may be shown overleaf.
The lawful holder of this certificate may serve in the following capacity or capacities:

CAPACITY	LIMITATIONS APPLYING (IF ANY)

Certificate No. . . . . issued on . . . . . .

(Official seal)

. . . . . .

Signature of duly authorized official

. . . . . .
Name of duly authorized official

Date of birth of the holder of the certificate . . . . . .

Signature of the holder of the certificate . . . . . .

Photograph of the holder of the certificate

The validity of this certificate is hereby extended until . . . . . .

(Official seal)

. . . . . .
Signature of duly authorized official
Date of revalidation . . . . . .

. . . . . .
Name of duly authorized official

The validity of this certificate is hereby extended until . . . . . .

(Official seal)

. . . . . .
Signature of duly authorized official
Date of revalidation . . . . . .

. . . . . .
Name of duly authorized official

Format 2

The form used to attest the issue of a certificate shall be as shown below, provided that the words "or until the date of expiry of any extension of the validity of this endorsement as may be shown overleaf" appearing on the front of the form and the provisions for recording extension of the validity appearing on the back of the form are omitted where the endorsement is required to be replaced upon its expiry.

(Official seal)

(COUNTRY)

ENDORSEMENT ATTESTING THE ISSUE OF A CERTIFICATE UNDER THE PROVISIONS OF THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR FISHING VESSEL PERSONNEL, 1995

The Government of . . . . . certifies that certificate no. . . . . has been issued to . . . . . who has been found duly qualified in accordance with the provisions of regulation . . . . . of the above Convention and has been found competent to serve as specified below, subject to any limitations indicated until . . . . . or until the date of expiry of any extension of the validity of this endorsement as may be shown overleaf.
The lawful holder of this endorsement may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration:

CAPACITY	LIMITATIONS APPLYING (IF ANY)

Endorsement No. . . . . issued on . . . . . .

(Official seal)

. . . . . .
Signature of duly authorized official

. . . . . .
Name of duly authorized official

Date of birth of the holder of the certificate . . . . . .

Signature of the holder of the certificate . . . . . .

Photograph of the holder of the certificate

The validity of this endorsement is hereby extended until . . . . . .

(Official seal)

. . . . . .

Signature of duly authorized official

Date of revalidation . . . . . .

. . . . . .

Name of duly authorized official

The validity of this endorsement is hereby extended until . . . . . .

(Official seal)

. . . . . .

Signature of duly authorized official

Date of revalidation . . . . . .

. . . . . .

Name of duly authorized official

Format 3

The form used to attest the recognition of a certificate shall be as shown below, except that the words "or until the date of expiry of any extension of the validity of this endorsement as may be shown overleaf" appearing on the front of the form and the provisions for recording extension of the validity appearing on the back of the form shall be omitted where the endorsement is required to be replaced upon its expiry.

(Official Seal)

(COUNTRY)

ENDORSEMENT ATTESTING THE RECOGNITION OF A CERTIFICATE UNDER THE PROVISIONS OF THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR FISHING VESSEL PERSONNEL, 1995

The Government of . . . . . certifies that certificate no. . . . . issued to . . . . . by or on behalf of the Government of . . . . . is duly recognized in accordance with the provisions of regulation I/7 of the above Convention, and the lawful holder is authorized to serve as specified below, subject to any limitations indicated until . . . . . or until the date of expiry of any extension of the validity of this endorsement as may be shown overleaf.
The lawful holder of this endorsement may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration:

CAPACITY	LIMITATIONS APPLYING (IF ANY)

Endorsement No. . . . . issued on . . . . . .
(Official Seal)
. . . . . .
Signature of duly authorized official

. . . . . .
Name of duly authorized official

Date of birth of the holder of the certificate . . . . . .

Signature of the holder of the certificate . . . . . .

Photograph of the holder of the certificate

The validity of this endorsement is hereby extended until . . . . . .

(Official seal)

. . . . . .

Signature of duly authorized official

Date of revalidation . . . . . .

. . . . . .

Name of duly authorized official

The validity of this endorsement is hereby extended until . . . . . .

(Official seal)

. . . . . .

Signature of duly authorized official

Date of revalidation . . . . . .

. . . . . .

Name of duly authorized official

Section A-I/4
Control procedures

(No provisions)

Section A-I/5
Communication of information

(No provisions)

Section A-I/6
Administration of certification arrangements

(No provisions)

Section A-I/7
Recognition of certificates

(No provisions)

Section A-I/8
Transitional provisions

(No provisions)

Section A-I/9
Dispensation

(No provisions)

Section A-I/10
Equivalents

(No provisions)

Section A-I/11
Use of simulators

General performance standards for simulators used in training

1 Each Party shall ensure that any simulator used for simulator-based training shall:

.1 be suitable for the selected objectives and training tasks;

.2 be capable of simulating the operating capabilities of shipboard equipment concerned, to a level of physical realism appropriate to training objectives, and include the capabilities, limitations and possible errors of such equipment;

.3 have sufficient behavioural realism to allow a trainee to acquire the skills appropriate to the training objectives;

.4 provide a controlled operating environment capable of producing a variety of conditions, which may include emergency, hazardous or unusual situations relevant to the training objectives;

.5 provide an interface through which a trainee can interact with the equipment, the simulated environment and, as appropriate, the instructor; and

.6 permit an instructor to control, monitor and record exercises for the effective debriefing of the trainees.

General performance standards for simulators used in assessment of competence

2 Each Party shall ensure that any simulator used for the assessment of competence required under the Convention or for any demonstration of continued proficiency so required shall:

.1 be capable of satisfying the specified assessment objectives;

.2 be capable of simulating the operational capabilities of the shipboard equipment concerned to a level of physical realism appropriate to the assessment objectives, and include the capabilities, limitations and possible errors of such equipment;

.3 have sufficient behavioural realism to allow a candidate to exhibit the skills appropriate to the assessment objectives;

.4 provide an interface through which a candidate can interact with the equipment and simulated environment;

.5 provide a controlled operating environment, capable of producing a variety of conditions, which may include emergency, hazardous or unusual situations relevant to assessment objectives; and

.6 permit an assessor to control, monitor and record exercises for the effective assessment of the performance of candidates.

Additional performance standards

3 In addition to meeting the basic requirements set out in paragraphs 1 and 2, simulation equipment to which this section applies shall meet the performance standards given below in accordance with their specific type.

Radar simulation

4 Radar simulation equipment shall be capable of simulating the operational capabilities of navigational radar equipment which meets all applicable performance standards adopted by the Organization and incorporate facilities to:

.1 operate in the stabilized relative-motion mode and sea- and ground-stabilized true-motion modes;

.2 model weather, tidal streams, current, shadow sectors, spurious echoes and other propagation effects, and generate coastlines, navigational buoys and search and rescue transponders; and

.3 create a real-time operating environment incorporating at least two own-vessel stations with ability to change the own vessel's course and speed, and include parameters for at least 20 target vessels and appropriate communication facilities.

Simulator training objectives

5 Each Party shall ensure that the aims and objectives of simulator-based training are defined within an overall training programme and that specific training objectives and tasks are selected so as to relate as closely as possible to shipboard tasks and practices.

Training procedures

6 In conducting simulator-based training, instructors shall ensure that:

.1 trainees are adequately briefed beforehand on the exercise objectives and tasks and are given sufficient planning time before the exercise starts;

.2 trainees have adequate familiarization time on the simulator and with its equipment before any training or assessment exercise commences;

.3 guidance given and exercise stimuli are appropriate to the selected exercise objectives and tasks and to the level of trainee experience;

.4 exercises are effectively monitored, supported as appropriate by audio and visual observation of trainee activity and pre- and post-exercise evaluation reports;

.5 trainees are effectively debriefed to ensure that training objectives have been met and that operational skills demonstrated are of an acceptable standard;

.6 the use of peer assessment during debriefing is encouraged; and

.7 simulator exercises are designed and tested so as to ensure their suitability for the specified training objectives.

Assessment procedures

7 Where simulators are used to assess the ability of candidates to demonstrate levels of competency, assessors shall ensure that:

.1 performance criteria are identified clearly and explicitly and are valid and available to the candidates;

.2 assessment criteria are established clearly and are explicit to ensure reliability and uniformity of assessment and to optimize objective measurements and evaluation, so that subjective judgements are kept to the minimum;

.3 candidates are briefed clearly on the tasks and/or skills to be assessed and on the tasks and performance criteria by which their competency will be determined;

.4 assessment of performance takes into account normal operating procedures and any behavioural interaction with other candidates on the simulator or with simulator staff;

.5 scoring or grading methods to assess performance are used with caution until they have been validated; and

.6 the prime criterion is that a candidate demonstrates the ability to carry out a task safely and effectively to the satisfaction of the assessor.

Section A-I/12
Medical standards

1 Parties, when establishing standards of medical fitness for fishing vessel personnel as required by regulation I/12, shall adhere to the minimum in-service eyesight standards set out in table A-I/12 and take into account the criteria for physical and medical fitness set out in paragraph 2. They should also take into account the guidance given in section B-I/12 of this Code and the *Guidelines on the medical examination of fishing vessel personnel*. These standards may, to the extent determined by the Party without prejudice to the safety of the fishing vessel personnel or the fishing vessel, differentiate between those persons seeking to start a career at sea and those fishing vessel personnel already serving at sea and between different functions on board, bearing in mind the different duties of fishing vessel personnel. They shall also take into account any impairment or disease that will limit the ability of the fishing vessel personnel to effectively perform their duties during the validity period of the medical certificate.

2 The standards of physical and medical fitness established by the Party shall ensure that fishing vessel personnel satisfy the following criteria:

.1 have the physical capability, taking into account paragraph 5 below to fulfil all the requirements of the basic safety training as required by section A-III/1;

.2 demonstrate adequate hearing and speech to communicate effectively and detect any audible alarms;

.3 have no medical condition, disorder or impairment that will prevent the effective and safe conduct of their routine and emergency duties on board during the validity period of the medical certificate;

.4 are not suffering from any medical condition likely to be aggravated by service at sea or to render the fishing vessel personnel unfit for such service or to endanger the health and safety of other persons on board; and

.5 are not taking any medication that has side effects that will impair judgement, balance or any other requirements for effective and safe performance of routine and emergency duties on board.

3 Medical fitness examinations of fishing vessel personnel shall be conducted by appropriately qualified and experienced medical practitioners recognized by the Party.

4 Each Party shall establish provisions for recognizing medical practitioners. A register of recognized medical practitioners shall be maintained by the Party and made available to other Parties, companies and fishing vessel personnel on request.

5 Each Party shall provide guidance for the conduct of medical fitness examinations and issuing of medical certificates, taking into account the guidance given in section B-I/12 of this Code and the *Guidelines on the medical examination of fishing vessel personnel*. Each Party shall determine the amount of discretion given to recognized medical practitioners on the application of the medical standards, bearing in mind the different duties of fishing vessel personnel, except that there shall not be discretion with respect to the minimum eyesight standards for distance vision aided, near/immediate vision and colour vision in table A-I/12 for fishing vessel personnel in the deck department required to undertake lookout duties. A Party may allow discretion on the application of these standards with regard to fishing vessel personnel in the engine department, on the condition that fishing vessel personnel's combined vision fulfils the requirements set out in table A-I/12.

6 Each Party shall establish processes and procedures to enable fishing vessel personnel who, after examination, do not meet the medical fitness standards or have had a limitation imposed on their ability to work, in particular with respect to time, field of work or operation area, to have their case reviewed in line with that Party's provisions for appeal.

7 The medical certificate provided for in regulation I/12, paragraph 3, shall include the following information at a minimum:

.1 Authorizing authority and the requirements under which the document is issued

.2 Fishing vessel personnel information

.1 Name: (last, first, middle)

.2 Date of birth: (day/month/year)

.3 Gender: (Male/Female)

.4 Nationality

.3 Declaration of the recognized medical practitioner

.1 Confirmation that identification documents were checked at the point of examination: Y/N

.2 Hearing meets the standards in section A-I/12? Y/N

.3 Unaided hearing satisfactory? Y/N

.4 Visual acuity meets standards in section A-I/12? Y/N

.5 Colour vision meets standards in section A-I/12? Y/N

.1 Date of last colour vision test

.6 Fit for lookout duties? Y/N

.7 No limitations or restrictions on fitness? Y/N

If "N", specify limitations or restrictions

.8 Is the fishing vessel personnel free from any medical condition likely to be aggravated by service at sea or to render the fishing vessel personnel unfit for such service or to endanger the health of other persons on board? Y/N

.9 Date of examination: (day/month/year)

.10 Expiry date of certificate: (day/month/year)

.4 Details of the issuing authority

.1 Official stamp (including name) of the issuing authority

.2 Signature of the authorized person

.5 Fishing vessel personnel's signature – confirming that the fishing vessel personnel has been informed of the content of the certificate and of the right to a review in accordance with paragraph 6 of section A-I/12

8 Medical certificates shall be in the official language of the issuing country. If the language used is not English, the text shall include a translation into that language.

Table A-I/12

Minimum in-service eyesight standards for fishing vessel personnel

STCW-F Convention regulation	Category of fishing vessel personnel	Distance vision aided[1]		Near/immediate vision	Colour Vision[3]	Visual Fields[4]	Night Blindness[4]	Diplopia (double vision)[4]
		One eye	Other eye	Both eyes together, aided or unaided				
II/1 II/2 II/3 II/4 II/7	Skippers, deck officers and fishing vessel personnel forming part of a navigational watch	0.5[2]	0.5	Vision required for fishing vessel's navigation (e.g. chart and nautical publication reference, use of bridge instrumentation and equipment, and identification of aids to navigation)	See note 6	Normal visual fields	Vision required to perform all necessary functions in darkness without compromise	No significant condition evident
II/5 II/5-1 II/5-2 II/7	All engineer officers and other fishing vessel personnel forming part of an engine-room watch	0.4	0.4 (see note 5)	Vision required to read instruments in close proximity, to operate equipment, and to identify systems/ components as necessary	See note 7	Sufficient visual fields	Vision required to perform all necessary functions in darkness without compromise	No significant condition evident
II/6 II/8	GMDSS radio operators	0.4	0.4	Vision required to read instruments in close proximity, to operate equipment and to identify systems/ components as necessary	See note 7	Sufficient visual fields	Vision required to perform all necessary functions in darkness without compromise	No significant condition evident

Notes:

[1] Values given in Snellen decimal notation.

[2] A value of at least 0.7 in one eye is recommended to reduce the risk of undetected underlying eye disease.

[3] As defined in the *International Recommendations for Colour Vision Requirements for Transport* by the Commission Internationale de l'Eclairage (CIE-143-2001 including any subsequent versions).

[4] Subject to assessment by a clinical vision specialist where indicated by initial examination findings.

[5] Engine department personnel shall have a combined eyesight vision of at least 0.4.

[6] CIE colour vision standard 1 or 2. Other equivalent confirmatory test methods currently recognized by the Administration may continue to be used.

[7] CIE colour vision standard 1, 2 or 3. Other equivalent confirmatory test methods currently recognized by the Administration may continue to be used.

Chapter II
Standards regarding certification of skippers, officers in charge of a navigational watch, engineer officers and radio operators

Section A-II/1
Mandatory minimum requirements for certification of skippers on fishing vessels of 24 metres in length and over operating in unlimited waters

Standard of competence

1 Every candidate for certification as skipper on fishing vessels of 24 metres in length and over operating in unlimited waters shall be required to demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-II/1.

2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/1. This incorporates, expands and extends in depth the subjects listed in column 2 of table A-II/2 for officers in charge of a navigational watch.

3 The level of knowledge of the subjects listed in column 2 of table A-II/1 shall be sufficient to enable the candidate to serve in the capacity of skipper.

4 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and criteria for evaluating competence tabulated in columns 3 and 4 of table A-II/1.

Table A-II/1

Specification of minimum standard of competence for skippers on fishing vessels of 24 metres in length and over operating in unlimited waters

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Function: Navigation at the management level			
Plan a voyage and conduct navigation	*Navigation* Voyage planning and navigation for all conditions: .1 by acceptable methods of determining ocean tracks .2 within restricted waters .3 where applicable, in ice .4 in restricted visibility .5 where applicable, in traffic separation schemes .6 in areas affected by tides or currents .7 in all meteorological conditions	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training using: chart catalogues, charts, nautical publications and vessel particulars	The equipment, charts and nautical publications required for the voyage are enumerated and appropriate to the safe conduct of the voyage The reasons for the planned route are supported by facts and statistical data obtained from relevant sources and publications Positions, courses, distances and time calculations are correct within accepted accuracy standards for navigational equipment All potential navigational hazards are accurately identified
Determine position and the accuracy of resultant position fix by any means	Position determination: .1 by celestial observations .2 by terrestrial observations, including the ability to use bearings from landmarks and aids to navigation such as lighthouses, beacons and buoys in conjunction with	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	The primary method chosen for fixing the vessel's position is the most appropriate to the prevailing circumstances and conditions The fix obtained by celestial observations is within accepted accuracy levels The fix obtained by terrestrial observations is within

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	appropriate charts, notices to mariners and other publications to assess the accuracy of the resulting position fix .3 by using, to the satisfaction of the Party, electronic navigational aids as provided in fishing vessels, with specific reference to knowledge of their operating principles, limitations, sources of error, detection of misrepresentation of information and methods of correction to obtain accurate position fixing	.4 approved laboratory equipment training using: (a) charts, nautical almanac, plotting sheets, chronometer, sextant and a calculator (b) charts, nautical publications and navigational instruments (azimuth mirror, sextant, log, sounding equipment, compass) and manufactures manuals (c) radar, terrestrial electronic position-fixing systems, satellite navigation systems and appropriate nautical charts and publications	accepted accuracy levels The accuracy of the resulting fix is properly assessed The fix obtained by the use of electronic navigational aids is within the accuracy standards of the systems in use. The possible errors affecting the accuracy of the resulting position are stated and methods of minimizing the effects of system errors on the resulting position are properly applied

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Determine and allow for compass errors	*Compasses* Ability to use terrestrial and celestial means to determine and apply the errors of the compasses	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training using: celestial observations, terrestrial bearings and comparison between magnetic and gyro-compasses	The method and frequency of checks for errors of compasses ensures accuracy of information
Coordinate search and rescue operations	*Search and rescue* Thorough knowledge of and ability to apply the procedures in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training using: relevant publications,	The plan for coordinating search and rescue operations is in accordance with international guidelines and standards Radiocommunications are established and correct communication procedures are followed at all stages of the search and rescue operations

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
		charts, meteorological data, particulars of vessels involved, radiocommunication equipment and other available facilities	
Establish watchkeeping arrangements and procedures	*Watchkeeping* Thorough knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea, 1972, specially annexes II and IV concerned with safe navigation Ability to demonstrate knowledge of basic principles to be observed in keeping a navigational watch as prescribed in chapter IV	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved simulator training, where appropriate	Watchkeeping arrangements and procedures are established and maintained in compliance with international regulations and guidelines so as to ensure the safety of navigation, protection of the marine environment and safety of the vessel and persons on board
Forecast weather and oceanographic conditions	*Meteorology and oceanography* Knowledge of meteorological instruments and their application Ability to apply meteorological information available Knowledge of characteristics of various weather systems, including, at the discretion of the Party, tropical revolving storms and avoidance of storm	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved laboratory equipment training	The likely weather conditions predicted for a determined period are based on all available information Actions taken to maintain safety of navigation minimize any risk to safety of the vessel Reasons for intended action are backed by statistical data and observations of the actual weather conditions

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	centres and the dangerous quadrants Knowledge of weather conditions, such as fog, icebergs, ice accretion and freezing spray liable to endanger the vessel Ability to use appropriate navigational publications on tides and currents Ability to calculate times and heights of high and low water and estimate the direction and rate of tidal streams		
Respond to navigational emergencies	*Emergency procedures* Precautions when beaching a vessel Action to be taken prior to, and after, grounding Action to be taken when the gear becomes fast to the ground or other obstruction Floating a grounded vessel, with and without assistance Action to be taken following a collision Temporary plugging of leaks	Assessment of evidence obtained from examination or practical instruction, in-service experience and practical drills in emergency procedures	The type and scale of any problem is promptly identified and decisions and actions minimize the effects of any malfunction of the vessel's systems Communications are effective and comply with established procedures Decisions and actions maximize safety of persons on board

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Measures for the protection and safety of crew in emergencies Limiting damage and salving the vessel following a fire or explosion Abandoning ship Emergency steering, rigging, and use of jury steering and the means of rigging a jury rudder, where practicable Rescuing persons from a vessel in distress or from a wreck Man overboard procedures Towing and being towed		
Fishing vessel manoeuvring and handling	*Fishing vessel manoeuvring and handling* Manoeuvring and handling of a fishing vessel in all conditions including: .1 berthing, unberthing and anchor work under various conditions of wind and tide .2 manoeuvring in shallow water .3 management and handling of fishing vessels in heavy weather, including appropriate	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved manned scale vessel model, where appropriate	All decisions concerning berthing and anchoring are based on a proper assessment of the vessel's manoeuvring and engine characteristics and the forces to be expected while berthed alongside or lying at anchor While under way, a full assessment is made of possible effects of shallow and restricted waters, ice, banks, tidal conditions, passing vessels and own vessel's bow and stern wave so that the

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	speed, particularly in following and quartering seas, assisting a vessel or aircraft in distress, means of keeping an unmanageable vessel out of a sea trough and lessening drift .4 manoeuvring the vessel during fishing operations, with special regard to factors which could adversely affect the vessel's safety during such operations .5 precautions in manoeuvring for launching rescue boats or survival craft in bad weather .6 methods of taking on board survivors from rescue boats or survival craft .7 where applicable, practical measures to be taken when navigating in ice, icebergs or conditions of ice accretion on board the vessel .8 the use of, and manoeuvring in, traffic separation schemes .9 the importance of navigating at reduced speed to avoid damage caused by own		vessel can be safely manoeuvred under various conditions of loading and weather

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	vessel's bow or stern wave .10 transhipment at sea of catch and other supplies to factory vessels and other vessels .11 refuelling at sea		
Fishing vessel power plants	*Fishing vessel power plants* Operating principles of marine power plants in fishing vessels Vessel's auxiliary machinery General knowledge of marine engineering terms	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	Plant, auxiliary machinery and equipment are operated in accordance with technical specifications and within safe operating limits at all times
Maintain safe navigation through the use of information from navigation equipment and systems to assist command decision-making Note: Training and assessment in the use of ARPA is not required for those who serve exclusively on vessels not fitted with ARPA. This limitation shall be reflected in the endorsement issued to the fishing vessel personnel concerned	An appreciation of system errors and thorough understanding of the operational aspects of navigational systems Blind pilotage planning Evaluation of navigational information derived from all sources, including radar and ARPA, in order to make and implement command decisions for collision avoidance and for directing the safe navigation of the vessel	Examination and assessment of evidence obtained from approved ARPA simulator and one or more of the following: .1 approved in-service experience .2 approved simulator training, where appropriate .3 approved laboratory equipment training	Information obtained from navigation equipment and systems is correctly interpreted and analysed, taking into account the limitations of the equipment and prevailing circumstances and conditions Action taken to avoid a close encounter or collision with another vessel is in accordance with the International Regulations for Preventing Collisions at Sea, 1972

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	The interrelationship and optimum use of all navigational data available for conducting navigation		
Maintain the safety of navigation through the use of ECDIS and associated navigation systems to assist command decision-making Note: Training and assessment in the use of ECDIS is not required for those who serve exclusively on vessels not fitted with ECDIS. This limitation shall be reflected in the endorsement issued to the fishing vessel personnel concerned	Management of operational procedures, system files and data, including: .1 manage procurement, licensing and updating of chart data and system software to conform to established procedures .2 system and information updating, including the ability to update ECDIS system version in accordance with vendor's product development .3 create and maintain system configuration and backup files .4 create and maintain log files in accordance with established procedures .5 create and maintain route plan files in accordance with established procedures	Assessment of evidence obtained from one of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved ECDIS simulator training	Operational procedures for using ECDIS are established, applied and monitored Actions taken to minimize risk to safety of navigation

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.6 use ECDIS logbook and track history functions for inspection of system functions, alarm settings and user responses Use ECDIS playback functionality for passage review, route planning and review of system functions		
Use the IMO Standard Marine Communication Phrases and use English in written and oral forum	*English language* Adequate knowledge of the English language to enable the skipper to use charts and other nautical publications, to understand meteorological information and messages concerning the vessel's safety and operation, and to communicate with other vessels or coast stations Ability to understand and use the IMO Standard Marine Communication Phrases	Assessment of evidence obtained from examination or practical instruction	English language navigational publications and messages relevant to the safety of the vessel are correctly interpreted or drafted Communications are clear and understood
Transmit and receive information by visual signalling	*Visual signalling* Ability to use the International Code of Signals Ability to transmit and receive, by Morse light, distress signal SOS as specified in annex IV of the International Regulations for	Assessment of evidence obtained from examination or practical instruction and/or simulation	Communications within the operator's area of responsibility are consistently successful

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Preventing Collisions at Sea, 1972, and appendix 1 of the International Code of Signals, and visual signalling of single-letter signals as also specified in the International Code of Signals		
Function: Catch handling and stowage at the management level			
Catch handling and stowage	*Catch handling and stowage* Stowage and securing of the catch on board vessels, including fishing gear Loading and discharging operations, with special regard to heeling moments from gear and catch	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	The stowage and securing of the catch ensure that stability conditions remain within safe limits at all times during the voyage
Function: Controlling the operation of the vessel and care for persons on board at the management level			
Control trim and stability	*Fishing vessel construction and stability* General knowledge of principal structural members of a vessel and the proper names of the various parts Knowledge of the theories and factors	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience	Stability conditions are maintained within safe limits at all times Actions to ensure and maintain the watertight integrity of the vessel are in accordance with accepted practice

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	affecting trim and stability and measures necessary to preserve safe trim and stability Ability to demonstrate the application of stability data, stability and trim tables and precalculated operating conditions, and the use of the vessel's stability booklet Knowledge of effects of free surfaces and ice accretion, where applicable Knowledge of effects of water on deck Knowledge of the significance of weathertight and watertight integrity Knowledge of internationally recognized stability criteria and conditions	.3 approved simulator training, where appropriate using: stability and trim tables and diagrams	
Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea and the protection of the marine environment	*Maritime law* Knowledge of international maritime law as embodied in the international agreements and conventions as they affect the specific obligations and responsibilities of the skipper, particularly those concerning safety and the protection of the marine environment	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	Procedures for monitoring operations and maintenance comply with legislative requirements Potential non-compliance is promptly and fully identified Planned renewal and extension of certificates ensures continued validity of surveyed items and equipment

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Particular regard shall be paid to the following subjects: .1 certificates and other documents required to be carried on board fishing vessels by international conventions, how they may be obtained and the period of their legal validity .2 responsibilities under a relevant international convention related to the safety of fishing vessels .3 responsibilities under the relevant requirements of chapter V of the International Convention for the Safety of Life at Sea, 1974 .4 responsibilities under the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 thereto .5 maritime declarations of health and the requirements of the International Health Regulations .6 responsibilities under the Convention on International		

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Regulations for Preventing Collisions at Sea, 1972 .7 responsibilities under other international instruments affecting the safety of the vessel and crew The extent of knowledge of national maritime legislation is left to the discretion of the Party, but shall include national arrangements for implementing applicable international agreements and conventions .8 knowledge of relevant international instruments on safety and health of personnel on board fishing vessels .9 the principles and international standards applicable to the responsible conservation, management and development of living aquatic resources .10 knowledge of key international instruments and tools related to the fight against illegal, unreported and unregulated (IUU) fishing		

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Maintain safety of the vessel's crew and the operational condition of life-saving and fire-fighting appliances	*Fire prevention and fire-fighting appliances* Organization of fire drills Classes and chemistry of fire Fire-fighting systems Understanding of action to be taken in the event of fire, including fires involving oil systems Knowledge of provisions concerning fire-fighting equipment Knowledge of fire prevention measures *Life-saving* Thorough knowledge of life-saving appliances provided on fishing vessels Ability to organize abandon ship drills and knowledge of the operation of survival craft and rescue boats, their launching appliances and arrangements, and their equipment, including radio life-saving appliances, EPIRBs, SARTs, immersion suits and thermal protective aids	Assessment of evidence obtained from examination or approved training	Procedures for monitoring fire detection and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established emergency procedures

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Actions to be taken to protect and safeguard all persons on board in emergencies Actions to limit damage and salve the vessel following a fire, explosion, collision or grounding *Maintenance* Maintenance of operational condition of life-saving, fire-fighting and other safety systems		
Organize and manage the provision of medical care on board	*Medical care* Knowledge of medical first aid procedures Knowledge of relevant procedures to provide adequate medical care on board Knowledge of procedures for obtaining medical advice by radio Thorough knowledge of the use of the following publications: .1 International Medical Guide for Ships or equivalent national publications .2 medical section of the International Code of Signals	Assessment of evidence obtained from approved training	Action taken and procedures following correctly apply and make full use of advice available

Section A-II/2

Mandatory minimum requirements for certification of officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in unlimited waters

Standard of competence

1 Every candidate for certification as officer in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in unlimited waters shall be required to demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-II/2.

2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/2.

3 The level of knowledge of the subjects listed in column 2 of table A-II/2 shall be sufficient for officers of the watch to carry out their watchkeeping duties.

4 Every candidate for certification shall be required to provide evidence of having achieved 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-II/2.

Onboard training

5 Every candidate for certification as officer in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in unlimited waters whose seagoing service, in accordance with paragraph 2.2 of regulation II/2, forms part of a training programme approved as meeting the requirements of this section shall follow an approved programme of onboard training which:

.1 ensures that, during the required period of seagoing service, the candidate receives systematic practical training and experience in the tasks, duties and responsibilities of an officer in charge of a navigational watch;

.2 is closely supervised and monitored by qualified officers aboard the vessels in which the approved seagoing service is performed; and

.3 is adequately documented in a training record book or a similar document.

Table A-II/2

Specification of minimum standard of competence for officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in unlimited waters

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Function: Navigation at the operational level			
Plan and conduct a passage and determine position	*Celestial navigation* Ability to use a celestial body to determine compass errors *Terrestrial and coastal navigation* Ability to determine the vessel position by the use of: .1 landmarks .2 aids to navigation, including lighthouses, beacons and buoys .3 dead reckoning, taking into account winds, tides, currents, speed by propeller revolutions per minute and by log Thorough knowledge of and ability to use navigational charts and publications such as sailing directions, tide tables, notices to mariners and radio navigational warnings Electronic systems of position fixing and navigation Ability to determine the vessel's position by the use of electronic navigational aids to the satisfaction of the Party	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training using: chart catalogues, charts, nautical publications, radio navigational warnings, sextant, azimuth mirror, electronic navigation equipment, echo sounding equipment, compass	The information obtained from nautical charts and publications is relevant, interpreted correctly and properly applied. All potential navigational hazards are accurately identified The primary method of fixing the vessel's position is the most appropriate to the prevailing circumstances and conditions The position is determined within the limits of acceptable instrument/system errors The reliability of the information obtained from the primary method of position fixing is checked at appropriate intervals Calculations and measurements of navigational information are accurate The charts selected are the largest scale suitable for the area of navigation and charts and publications are corrected in accordance with the

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Magnetic and gyro-compasses Care and use of compasses and associated equipment *Meteorology* Knowledge of shipborne meteorological instruments and their application Knowledge of the characteristics of the various weather systems		latest information available Performance checks and tests to navigation systems comply with manufacturer's recommendations and good navigational practice Errors in magnetic and gyro-compasses are determined and correctly applied to courses and bearings Measurements and observations of weather conditions are accurate and appropriate to the passage
Maintain a safe navigational watch	*Watchkeeping* Thorough knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea, 1972, specially annexes II and IV concerned with safe navigation Ability to demonstrate knowledge of the content of the basic principles to be observed in keeping a navigational watch as prescribed in chapter IV	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	The conduct, handover and relief of the watch conforms with accepted principles and procedures A proper lookout is maintained at all times and in such a way as to conform to accepted principles and procedures Lights, shapes and sound signals conform with the requirements contained in the International Regulations for Preventing Collisions at Sea, 1972, and are correctly recognized The frequency and extent of monitoring of

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
			traffic, the vessel and the environment conform with accepted principles and procedures A proper record is maintained of the movements and activities relating to the navigation of the vessel Responsibility for the safety of navigation is clearly defined at all times, including periods when the master is on the bridge and while under pilotage
Respond to a distress signal at sea	*Search and rescue* Adequate knowledge of search and rescue procedures based on the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual	Assessment of evidence obtained from examination or practical instruction and/or simulation	The distress or emergency signal is immediately recognized Contingency plans and instructions in standing orders are implemented and complied with
Fishing vessel manoeuvring and handling	*Fishing vessel manoeuvring and handling* Basic knowledge of manoeuvring and handling a fishing vessel, including the following: .1 berthing, unberthing, anchoring and manoeuvring alongside other vessels at sea	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience	Safe operating limits of vessel propulsion, steering and power systems are not exceeded in normal manoeuvres Adjustments made to the vessel's course and speed maintain safety of navigation

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.2 manoeuvring during fishing operations with special regard to factors which could adversely affect the vessel's safety during such operations .3 effects of wind, tide and current on vessel handling .4 manoeuvring in shallow water .5 management of fishing vessels in heavy weather .6 rescuing persons and assisting a vessel or aircraft in distress .7 towing and being towed .8 man overboard procedure .9 where applicable, practical measures to be taken when navigating in ice or in conditions of ice accretion on board the vessel	.3 approved simulator training, where appropriate .4 approved training on a manned scale vessel model where appropriate	
Use of radar and ARPA to maintain safety of navigation Note: Training and assessment in the use of ARPA is not required for those who serve exclusively on vessels not fitted with ARPA. This limitation shall be reflected in the endorsement issued	*Radar navigation* Knowledge of the fundamentals of radar and automatic radar plotting aids (ARPA) Ability to operate and to interpret and analyse information obtained from radar, including the following: Performance, including:	Assessment of evidence obtained from approved radar simulator and ARPA simulator plus in-service experience	Information obtained from radar and ARPA is correctly interpreted and analysed, taking into account the limitations of the equipment and prevailing circumstances and conditions Action taken to avoid a close encounter or collision with other vessels is in

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
to the fishing vessel personnel concerned	.1 factors affecting performance and accuracy .2 setting up and maintaining displays .3 detection of misrepresentation of information, false echoes, sea return, etc., racons and SARTs Use, including: .1 range and bearing; course and speed of other vessels; time and distance of closest approach of crossing, meeting overtaking vessels .2 identification of critical echoes; detecting course and speed changes of other vessels; effect of changes in own vessel's course or speed or both .3 application of the International Regulations for Preventing Collisions at Sea, 1972 .4 plotting techniques and relative- and true-motion concepts .5 parallel indexing Principal types of ARPA, their display characteristics, performance standards and the		accordance with the International Regulations for Preventing Collisions at Sea, 1972 Decisions to amend course and/or speed are both timely and in accordance with accepted navigation practice Adjustments made to the vessel's course and speed maintain safety of navigation Communication is clear, concise and acknowledged at all times in a seamanlike manner Manoeuvring signals are made at the appropriate time and are in accordance with the International Regulations for Preventing Collisions at Sea, 1972

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	dangers of over-reliance on ARPA Ability to operate and to interpret and analyse information obtained from ARPA, including: .1 system performance and accuracy, tracking capabilities and limitations, and processing delays .2 use of operational warnings and system tests .3 methods of target acquisition and their limitations .4 true and relative vectors, graphic representation of target information and danger areas .5 deriving and analysing information, critical echoes, exclusion areas and trial manoeuvres		
Use of ECDIS to maintain the safety of navigation Note: Training and assessment in the use of ECDIS is not required for those who serve exclusively on vessels not fitted with ECDIS. This limitation shall be reflected in the endorsements issued to the fishing	*Navigation using ECDIS* Knowledge of the capability and limitations of ECDIS operations, including: .1 thorough understanding of Electronic Navigational Chart (ENC) data, data accuracy, presentation rules, display options and other chart data formats	Examination and assessment of evidence obtained from one or more of the following: .1 approved training vessel experience .2 approved ECDIS simulator training	Monitors information on ECDIS in a manner that contributes to safe navigation Information obtained from ECDIS (including radar overlay and/or radar tracking functions, when fitted) is correctly interpreted and analysed, taking into account the limitations of the equipment, all

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
vessel personnel concerned	.2 the dangers of over-reliance .3 familiarity with the functions of ECDIS required by performance standards in force Proficiency in operation, interpretation, and analysis of information obtained from ECDIS, including: .1 use of functions that are integrated with other navigation systems in various installations, including proper functioning and adjustment to desired settings .2 safe monitoring and adjustment of information, including own position, sea area display, mode and orientation, chart data displayed, route monitoring, user-created information layers, contacts (when interfaced with AIS and/or radar tracking) and radar overlay functions (when interfaced) .3 confirmation of vessel position by alternative means .4 efficient use of settings to ensure conformance to operational procedures, including alarm parameters for anti-grounding,		connected sensors (including radar and AIS where interfaced), and prevailing circumstances and conditions Safety of navigation is maintained through Adjustments made to the vessel's course and speed through ECDIS-controlled track-keeping functions (when fitted) Communication is clear, concise and acknowledged at all times in a seamanlike manner

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	proximity to contacts and special areas, completeness of chart data and chart update status, and backup arrangements .5 adjustment of settings and values to suit the present conditions .6 situational awareness while using ECDIS including safe water and proximity of hazards, set and drift, chart data and scale selection, suitability of route, contact detection and management, and integrity of sensors		
Use the IMO Standard Marine Communication Phrases and use English in written and oral forum	*English language* Adequate knowledge of the English language to enable the officer to use charts and other nautical publications, to understand meteorological information and messages concerning vessel's safety and operation Ability to understand and use the IMO Standard Marine Communication Phrases	Assessment of evidence obtained from examination or practical instruction	English language navigational publications and messages relevant to the safety of the vessel are correctly interpreted or drafted Communications are clear and understood

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Function: Catch handling and stowage at the operational level			
Catch handling and stowage	*Catch handling and stowage* Knowledge of safe handling and stowage of catch and the effect of these factors on the safety of the vessel	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	Handling and stowage of catch are carried out in accordance with safety rules/regulations, equipment operating instructions and shipboard stowage limitation
Function: Controlling the operation of the vessel and care for persons on board at the operational level			
Ensure compliance with pollution prevention requirements and the protection of the marine environment	*Prevention of pollution of the marine environment* Knowledge of the precautions to be observed to prevent pollution of the marine environment Knowledge of the impacts of fishing on the environment including pollution related to Abandoned, Lost or otherwise Discarded Fishing Gear (ALDFG) in the context of annex V to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 thereto Understanding the importance of proactive measures to	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	protect the marine environment		
Maintain seaworthiness of the vessel	*Vessel stability* Ability to use stability data, stability and trim tables and precalculated operating conditions Knowledge of: .1 the effects of suspended weight on stability .2 the effects of fishing gear operations on stability .3 the risks of following and quartering seas *Fishing vessel construction* General knowledge of the principal structural members of a vessel Understanding of the fundamentals of watertight integrity	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	The stability conditions comply with the IMO intact stability criteria under all conditions of loading Actions to ensure and maintain the watertight integrity of the vessel are in accordance with accepted practice
Prevent, control and fight fires on board	*Fire prevention and fire-fighting appliances* Ability to organize fire drills Knowledge of classes and chemistry of fire Knowledge of fire-fighting systems	Assessment of evidence obtained from approved fire-fighting training and experience	The type and scale of the problem are promptly identified and initial actions conform with the emergency procedure and contingency plans for the vessel Evacuation, emergency shutdown and isolation procedures are

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Knowledge of action to be taken in the event of fire Knowledge of fire prevention measures and use of fire-fighting appliances		appropriate to the nature of the emergency and are implemented promptly The order of priority, and the levels and timescales of making reports and informing personnel on board, are relevant to the nature of the emergency and reflect the urgency of the problem
Operate life-saving appliances	*Life-saving* Ability to direct abandon ship drills and knowledge of the operation of life-saving appliances and their equipment, including the two-way radio-telephone apparatus. Survival at sea techniques including participation in an approved survival at sea course	Assessment of evidence obtained from examination or approved training	Actions in responding to abandon ship and survival situations are appropriate to the prevailing circumstances and conditions and comply with accepted safety practices and standards
Medical aid	*Medical aid* Knowledge of first aid procedures. Practical application of medical guides and advice by radio	Assessment of evidence obtained from approved training	The identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimizes immediate threat to life
Monitor compliance with legislative requirements	Basic working knowledge of the relevant IMO conventions and other relevant international instruments concerning safety of life at sea and protection of the marine environment	Assessment of evidence obtained from examination or approved training	Legislative requirements relating to safety of life at sea and protection of the marine environment are correctly identified

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Basic working knowledge of relevant international instruments concerning the responsible conservation, fishing management, responsible fisheries and development of living aquatic resources as well as key international instruments related to the fight against illegal, unreported and unregulated (IUU) fishing Understanding of the requirements which crews shall comply with Understanding the importance of sustainable development of the fishing industry		

Section A-II/3
Mandatory minimum requirements for certification of skippers on fishing vessels of 24 metres in length and over operating in limited waters

Standard of competence

1 Every candidate for certification as skipper on fishing vessels of 24 metres in length and over operating in limited waters shall be required to demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-II/3.

2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/3. This incorporates, expands and extends in depth the subjects listed in column 2 of table A-II/4 for officers in charge of a navigational watch.

3 The level of knowledge of the subjects listed in column 2 of table A-II/3 shall be sufficient to enable the candidate to serve in the capacity of skipper.

4 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and criteria for evaluating competence tabulated in columns 3 and 4 of table A-II/3.

Table A-II/3

Specification of minimum standard of competence for skippers on fishing vessels of 24 metres in length and over operating in limited waters

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Function: Navigation at the management level			
Plan a voyage and conduct navigation	*Navigation* Voyage planning and navigation for all conditions: .1 by acceptable methods of determining ocean tracks .2 within restricted waters .3 where applicable, in ice .4 in restricted visibility .5 where applicable, in traffic separation schemes .6 in areas affected by tides or currents .7 in all meteorological conditions	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training using: chart catalogues, charts, nautical publications and vessel particulars	The equipment, charts and nautical publications required for the voyage are enumerated and appropriate to the safe conduct of the voyage The reasons for the planned route are supported by facts and statistical data obtained from relevant sources and publications Positions, courses, distances and time calculations are correct within accepted accuracy standards for navigational equipment All potential navigational hazards are accurately identified
Determine position and the accuracy of resultant position fix by any means	Position determination: .1 by terrestrial observations, including the ability to use bearings from landmarks and aids to navigation such as lighthouses, beacons and buoys in conjunction with appropriate charts, notices to mariners and other publications to	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	The primary method chosen for fixing the vessel's position is the most appropriate to the prevailing circumstances and conditions The fix obtained by terrestrial observations is within accepted accuracy levels The accuracy of the resulting fix is properly assessed

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	assess the accuracy of the resulting position fix .2 by using, to the satisfaction of the Party, modern ship electronic navigational aids as provided in fishing vessels concerned	.4 approved laboratory equipment training using: (a) charts, nautical publications and navigational instruments (log, sounding equipment, compass) and manufactures manuals (b) radar, terrestrial electronic position-fixing systems, satellite navigation systems and appropriate nautical charts and publications	The fix obtained by the use of electronic navigational aids is within the accuracy standards of the systems in use. The possible errors affecting the accuracy of the resulting position are stated and methods of minimizing the effects of system errors on the resulting position are properly applied
Determine and allow for compass errors	*Compasses* Ability to use terrestrial means to determine and apply the errors of the compasses	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training using: terrestrial bearings and comparison between magnetic and gyro-compasses	The method and frequency of checks for errors of magnetic and gyro-compasses ensures accuracy of information

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Coordinate search and rescue operations	*Search and rescue* Knowledge of search and rescue procedures	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training using: relevant publications, charts, meteorological data, particulars of vessels involved, radiocommunication equipment and other available facilities	The plan for coordinating search and rescue operations is in accordance with international guidelines and standards Radiocommunications are established and correct communication procedures are followed at all stages of the search and rescue operations
Establish watchkeeping arrangements and procedures	*Watchkeeping* Thorough knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea, 1972, specially annexes II and IV concerned with safe navigation Ability to demonstrate knowledge of the content, application and intent of the principles to be observed in keeping a navigational watch as prescribed in chapter IV	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved simulator training, where appropriate	Watchkeeping arrangements and procedures are established and maintained in compliance with international regulations and guidelines so as to ensure the safety of navigation, protection of the marine environment and safety of the vessel and persons on board

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Reporting in accordance with the general principles for ships reporting systems and with VTS procedures, where deemed appropriate by the Party		
Forecast weather and oceanographic conditions	*Meteorology and oceanography* Knowledge of meteorological instruments and their application Ability to apply meteorological information available Knowledge of characteristics of various weather systems affecting the limited waters concerned liable to endanger the vessel, at the discretion of the Party Knowledge of weather conditions affecting the limited waters concerned liable to endanger the vessel, at the discretion of the Party Ability to calculate tidal conditions using appropriate navigational publications	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved laboratory equipment training	The likely weather conditions predicted for a determined period are based on all available information Actions taken to maintain safety of navigation minimize any risk to safety of the vessel Reasons for intended action are backed by statistical data and observations of the actual weather conditions Calculate times and heights of tides and estimate the direction and rate of tidal streams
Respond to navigational emergencies	*Emergency procedures* Precautions when beaching a vessel	Assessment of evidence obtained from examination or practical instruction, in-service experience and	The type and scale of any problem is promptly identified and decisions and actions minimize the effects of any

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Action to be taken prior to, and after, grounding Action to be taken when the gear becomes fast to the ground or other obstruction Floating a grounded vessel, with and without assistance Action to be taken following a collision Temporary plugging of leaks Measures for the protection and safety of crew in emergencies Limiting damage and salving the vessel following a fire or explosion Abandoning ship Emergency steering Rescuing persons from a vessel in distress or from a wreck Man overboard procedures Towing and being towed	practical drills in emergency procedures	malfunction of the vessel's systems Communications are effective and comply with established procedures Decisions and actions maximize safety of persons on board
Fishing vessel manoeuvring and handling	*Fishing vessel manoeuvring and handling* Manoeuvring and handling of a fishing vessel in all conditions including:	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience	All decisions concerning berthing and anchoring are based on a proper assessment of the vessel's manoeuvring and engine characteristics and

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.1 berthing, unberthing and anchor work under various conditions of wind and tide .2 manoeuvring in shallow water .3 management and handling of fishing vessels in heavy weather, including appropriate speed, particularly in following and quartering seas, assisting a vessel or aircraft in distress, means of keeping an unmanageable vessel out of a sea trough and lessening drift .4 manoeuvring the vessel during fishing operations, with special regard to factors which could adversely affect the vessel's safety during such operations .5 precautions in manoeuvring for launching rescue boats or survival craft in bad weather .6 methods of taking on board survivors from rescue boats or survival craft .7 where applicable, practical measures to be taken when navigating in ice, icebergs or conditions of ice	.2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved manned scale vessel model, where appropriate	the forces to be expected while berthed alongside or lying at anchor While under way, a full assessment is made of possible effects of shallow and restricted waters, ice, banks, tidal conditions, passing vessel and own vessel's bow and stern wave so that the vessel can be safely manoeuvred under various conditions of loading and weather

Column 1 **Competence**	Column 2 **Knowledge, understanding and proficiency**	Column 3 **Methods for demonstrating competence**	Column 4 **Criteria for evaluating competence**
	accretion on board the vessel .8 the use of, and manoeuvring in, traffic separation schemes .9 the importance of navigating at reduced speed to avoid damage caused by own vessel's bow or stern wave .10 transhipment at sea of catch and other supplies to factory vessels and other vessels		
Fishing vessel power plants	*Fishing vessel power plants* Operating principles of marine power plants in fishing vessels Vessel's auxiliary machinery General knowledge of marine engineering terms	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	Plant, auxiliary machinery and equipment is operated in accordance with technical specifications and within safe operating limits at all times
Maintain safe navigation through the use of information from navigation equipment and systems to assist command decision-making Note: Training and assessment in the use of ARPA is not required for those who serve exclusively on vessels not fitted	An appreciation of system errors and thorough understanding of the operational aspects of navigational systems Blind pilotage planning Evaluation of navigational information derived from all sources, including radar and ARPA, in order to	Examination and assessment of evidence obtained from approved ARPA simulator and one or more of the following: .1 approved in-service experience .2 approved simulator training, where appropriate	Information obtained from navigation equipment and systems is correctly interpreted and analysed, taking into account the limitations of the equipment and prevailing circumstances and conditions Action taken to avoid a close encounter or collision with another vessel is in

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
with ARPA. This limitation shall be reflected in the endorsement issued to the fishing vessel personnel concerned	make and implement command decisions for collision avoidance and for directing the safe navigation of the vessel The interrelationship and optimum use of all navigational data available for conducting navigation	.3 approved laboratory equipment training	accordance with the International Regulations for Preventing Collisions at Sea, 1972
Maintain the safety of navigation through the use of ECDIS and associated navigation systems to assist command decision-making Note: Training and assessment in the use of ECDIS is not required for those who serve exclusively on vessels not fitted with ECDIS. This limitation shall be reflected in the endorsement issued to the fishing vessel personnel concerned	Management of operational procedures, system files and data, including: .1 manage procurement, licensing and updating of chart data and system software to conform to established procedures .2 system and information updating, including the ability to update ECDIS system version in accordance with vendor's product development .3 create and maintain system configuration and backup files .4 create and maintain log files in accordance with established procedures .5 create and maintain route plan files in accordance	Assessment of evidence obtained from one of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved ECDIS simulator training	Operational procedures for using ECDIS are established, applied and monitored Actions taken to minimize risk to safety of navigation

Column 1 **Competence**	Column 2 **Knowledge, understanding and proficiency**	Column 3 **Methods for demonstrating competence**	Column 4 **Criteria for evaluating competence**
	with established procedures .6 use ECDIS logbook and track history functions for inspection of system functions, alarm settings and user responses Use ECDIS playback functionality for passage review, route planning and review of system functions		
Maritime communication for safe navigation	*English language* Basic knowledge of the English language to enable the skipper to use appropriate nautical publications, to understand meteorological information and messages concerning vessel's safety, and to communicate with other vessels	Examination and assessment of evidence obtained from practical instruction	English language nautical publications and messages relevant to the safety of the vessel are correctly interpreted or drafted Communications are clear and understood
Function: Catch handling and stowage at the management level			
Catch handling and stowage	*Catch handling and stowage* Stowage and securing of the catch on board vessels, including fishing gear Loading and discharging operations, with special regard to heeling moments from gear and catch	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	The stowage and securing of the catch ensure that stability conditions remain within safe limits at all times during the voyage

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Function: Controlling the operation of the vessel and care for persons on board at the management level			
Control trim and stability	*Fishing vessel construction and stability* General knowledge of principal structural members of a vessel and the proper names of the various parts Knowledge of the theories and factors affecting trim and stability and measures necessary to preserve safe trim and stability Knowledge and ability to use stability documents or booklets, stability data, stability and trim tables and precalculation for operating conditions. Knowledge of effects of free surfaces and ice accretion, where applicable Knowledge of effects of water on deck Knowledge of the significance of weathertight and watertight integrity Knowledge of internationally recognized stability criteria and conditions	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate using: stability and trim tables and diagrams	Stability conditions are maintained within safe limits at all times Actions to ensure and maintain the watertight integrity of the vessel are in accordance with accepted practice

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea and the protection of the marine environment	*Maritime law* Taking into account the limited waters as defined by the Party, knowledge of international maritime law as embodied in the international agreements and conventions as they affect the specific obligations and responsibilities of the skipper, particularly those concerning safety and the protection of the marine environment The extent of knowledge of national maritime legislation is left to the discretion of the Party, but shall include national arrangements for implementing applicable international agreements and conventions	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	Procedures for monitoring operations and maintenance comply with legislative requirements Potential non-compliance is promptly and fully identified Planned renewal and extension of certificates ensures continued validity of surveyed items and equipment
Maintain safety of the vessel's crew and the operational condition of life-saving and fire-fighting appliances	*Fire prevention and fire-fighting appliances* Organization of fire drills Classes and chemistry of fire Fire-fighting systems Understanding of action to be taken in the event of fire, including fires involving oil systems	Assessment of evidence obtained from examination or approved training	Procedures for monitoring fire detection and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established emergency procedures

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Knowledge of provisions concerning fire-fighting equipment Knowledge of fire prevention measures *Life-saving* Thorough knowledge of life-saving appliances provided on fishing vessels. Ability to organize abandon ship drills and knowledge of the operation of survival craft and rescue boats, their launching appliances and arrangements, and their equipment, including radio life-saving appliances, EPIRBs, SARTs, immersion suits and thermal protective aids Actions to be taken to protect and safeguard all persons on board in emergencies Actions to limit damage and salve the vessel following a fire, explosion, collision or grounding *Maintenance* Maintenance of operational condition of life-saving, fire-fighting and other safety systems		

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Organize and manage the provision of medical care on board	*Medical care* Knowledge of medical first aid procedures Knowledge of relevant procedures to provide adequate medical care on board Knowledge of procedures for obtaining medical advice by radio Practical application of medical guides and advice by radio including the ability to take effective action based on such knowledge in case of accident or illness that are likely to occur on board the vessel	Assessment of evidence obtained from examination or approved training	Action taken and procedures following correctly apply and make full use of advice available

Section A-II/4

Mandatory minimum requirements for certification of officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in limited waters

Standard of competence

1 Every candidate for certification as officer in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in limited waters shall be required to demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-II/4.

2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/4.

3 The level of knowledge of the subjects listed in column 2 of table A-II/4 shall be sufficient for officers of the watch to carry out their watchkeeping duties.

4 Every candidate for certification shall be required to provide evidence of having achieved 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-II/4.

Onboard training

5 Every candidate for certification as officer in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in limited waters whose seagoing service, in accordance with paragraph 2.2 of regulation II/4, forms part of a training programme approved as meeting the requirements of this section shall follow an approved programme of onboard training which:

.1 ensures that, during the required period of seagoing service, the candidate receives systematic practical training and experience in the tasks, duties and responsibilities of an officer in charge of a navigational watch;

.2 is closely supervised and monitored by qualified officers aboard the vessels in which the approved seagoing service is performed; and

.3 is adequately documented in a training record book or a similar document.

Table A-II/4

Specification of minimum standard of competence for officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in limited waters

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Function: Navigation at the operational level			
Plan and conduct a passage and determine position	Terrestrial and coastal navigation Ability to determine the vessel position by the use of: .1 landmarks .2 aids to navigation, including lighthouses, beacons and buoys .3 dead reckoning, taking into account winds, tides, currents, speed by propeller revolutions per minute and by log Thorough knowledge of and ability to use navigational charts and publications such as sailing directions, tide tables, notices to mariners and radio navigational warnings Electronic systems of position fixing and navigation Ability to determine the vessel's position by the use of electronic navigational aids to the satisfaction of the Party *Compasses* Care and use of compasses and associated equipment	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training using: chart catalogues, charts, nautical publications, radio navigational warnings, azimuth mirror, electronic navigation equipment, echo sounding equipment, compass	The information obtained from nautical charts and publications is relevant, interpreted correctly and properly applied. All potential navigational hazards are accurately identified The primary method of fixing the vessel's position is the most appropriate to the prevailing circumstances and conditions The position is determined within the limits of acceptable instrument/system errors The reliability of the information obtained from the primary method of position fixing is checked at appropriate intervals Calculations and measurements of navigational information are accurate The charts selected are the largest scale suitable for the area of navigation and charts and publications are corrected in accordance with the

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
	Ability to determine and apply compass errors *Meteorology* Knowledge of shipborne meteorological instruments and their application Knowledge of the characteristics of the various weather systems affecting the limited waters concerned *Echo sounders* Ability to operate the equipment and apply the information correctly *Steering control system* Knowledge of steering control systems and applicable operational procedures		latest information available Performance checks and tests to navigation systems comply with manufacturer's recommendations and good navigational practice Errors in magnetic and gyro-compasses are determined and correctly applied to courses and bearings Measurements and observations of weather conditions are accurate and appropriate to the passage
Maintain a safe navigational watch	*Watchkeeping* Thorough knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea, 1972, specially annexes II and IV concerned with safe navigation Ability to demonstrate knowledge of the	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	The conduct, handover and relief of the watch conforms with accepted principles and procedures A proper lookout is maintained at all times and in such a way as to conform to accepted principles and procedures

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	content of the basic principles to be observed in keeping a navigational watch as prescribed in chapter IV	.4 approved laboratory equipment training	Lights, shapes and sound signals conform with the requirements contained in the International Regulations for Preventing Collisions at Sea, 1972, and are correctly recognized The frequency and extent of monitoring of traffic, the vessel and the environment conform with accepted principles and procedures A proper record is maintained of the movements and activities relating to the navigation of the vessel Responsibility for the safety of navigation is clearly defined at all times, including periods when the master is on the bridge and while under pilotage
Respond to a distress signal at sea	*Search and rescue* Knowledge of search and rescue procedures	Assessment of evidence obtained from examination or practical instruction and/or simulation	The distress or emergency signal is immediately recognized Contingency plans and instructions in standing orders are implemented and complied with
Fishing vessel manoeuvring and handling	*Fishing vessel manoeuvring and handling* Basic knowledge of manoeuvring and handling a fishing	Examination and assessment of evidence obtained from one or more of the following:	Safe operating limits of vessel propulsion, steering and power systems are not exceeded in normal manoeuvres

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	vessel, including the following: .1 berthing, unberthing, anchoring and manoeuvring alongside other vessels at sea .2 manoeuvring during fishing operations with special regard to factors which could adversely affect the vessel's safety during such operations .3 effects of wind, tide and current on vessel handling .4 manoeuvring in shallow water .5 management of fishing vessels in heavy weather .6 rescuing persons and assisting a vessel or aircraft in distress .7 towing and being towed .8 man overboard procedure .9 where applicable, practical measures to be taken when navigating in ice or in conditions of ice accretion on board the vessel	.1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved training on a manned scale vessel model where appropriate	Adjustments made to the vessel's course and speed maintain safety of navigation

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Use of radar and ARPA to maintain safety of navigation Note: Training and assessment in the use of ARPA is not required for those who serve exclusively on vessels not fitted with ARPA. This limitation shall be reflected in the endorsement issued to the fishing vessel personnel concerned	*Radar navigation* Knowledge of the fundamentals of radar and automatic radar plotting aids (ARPA) Ability to operate and to interpret and analyse information obtained from radar, including the following: Performance, including: .1 factors affecting performance and accuracy .2 setting up and maintaining displays .3 detection of misrepresentation of information, false echoes, sea return, etc., racons and SARTs Use, including: .1 range and bearing; course and speed of other vessels; time and distance of closest approach of crossing, meeting overtaking vessels .2 identification of critical echoes; detecting course and speed changes of other vessels; effect of changes in own vessel's course or speed or both	Assessment of evidence obtained from approved radar simulator and ARPA simulator plus in-service experience	Information obtained from radar and ARPA is correctly interpreted and analysed, taking into account the limitations of the equipment and prevailing circumstances and conditions Action taken to avoid a close encounter or collision with other vessels is in accordance with the International Regulations for Preventing Collisions at Sea, 1972 Decisions to amend course and/or speed are both timely and in accordance with accepted navigation practice Adjustments made to the vessel's course and speed maintain safety of navigation Communication is clear, concise and acknowledged at all times in a seamanlike manner Manoeuvring signals are made at the appropriate time and are in accordance with the International Regulations for Preventing Collisions at Sea, 1972

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.3 application of the International Regulations for Preventing Collisions at Sea, 1972 .4 plotting techniques and relative- and true-motion concepts .5 parallel indexing Principal types of ARPA, their display characteristics, performance standards and the dangers of over-reliance on ARPA Ability to operate and to interpret and analyse information obtained from ARPA, including: .1 system performance and accuracy, tracking capabilities and limitations, and processing delays .2 use of operational warnings and system tests .3 methods of target acquisition and their limitations .4 true and relative vectors, graphic representation of target information and danger areas .5 deriving and analysing information, critical echoes, exclusion		

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	areas and trial manoeuvres		
Use of ECDIS to maintain the safety of navigation Note: Training and assessment in the use of ECDIS is not required for those who serve exclusively on vessels not fitted with ECDIS. This limitation shall be reflected in the endorsements issued to the fishing vessel personnel concerned	*Navigation using ECDIS* Knowledge of the capability and limitations of ECDIS operations, including: .1 thorough understanding of Electronic Navigational Chart (ENC) data, data accuracy, presentation rules, display options and other chart data formats .2 the dangers of over-reliance .3 familiarity with the functions of ECDIS required by performance standards in force Proficiency in operation, interpretation, and analysis of information obtained from ECDIS, including: .1 use of functions that are integrated with other navigation systems in various installations, including proper functioning and adjustment to desired settings .2 safe monitoring and adjustment of information, including	Examination and assessment of evidence obtained from one or more of the following: .1 approved training vessel experience .2 approved ECDIS simulator training	Monitors information on ECDIS in a manner that contributes to safe navigation Information obtained from ECDIS (including radar overlay and/or radar tracking functions, when fitted) is correctly interpreted and analysed, taking into account the limitations of the equipment, all connected sensors (including radar and AIS where interfaced), and prevailing circumstances and conditions Safety of navigation is maintained through adjustments made to the vessel's course and speed through ECDIS-controlled track-keeping functions (when fitted) Communication is clear, concise and acknowledged at all times in a seamanlike manner

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	own position, sea area display, mode and orientation, chart data displayed, route monitoring, user-created information layers, contacts (when interfaced with AIS and/or radar tracking) and radar overlay functions (when interfaced) .3 confirmation of vessel position by alternative means .4 efficient use of settings to ensure conformance to operational procedures, including alarm parameters for anti-grounding, proximity to contacts and special areas, completeness of chart data and chart update status, and backup arrangements .5 adjustment of settings and values to suit the present conditions .6 situational awareness while using ECDIS including safe water and proximity of hazards, set and drift, chart data and scale selection, suitability of route, contact detection and management, and integrity of sensors		

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Maritime communication for safe navigation	*English language* Basic knowledge of the English language to enable the officer to use appropriate nautical publications, to understand meteorological information and messages concerning vessel's safety, and to communicate with other vessels	Examination and assessment of evidence obtained from practical instruction	English language nautical publications and messages relevant to the safety of the vessel are correctly interpreted or drafted Communications are clear and understood
Function: Catch handling and stowage at the operational level			
Catch handling and stowage	*Catch handling and stowage* Knowledge of safe handling and stowage of catch and the effect of these factors on the safety of the vessel	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	Handling and stowage of catch are carried out in accordance with safety rules/regulations, equipment operating instructions and shipboard stowage limitation
Function: Controlling the operation of the vessel and care for persons on board at the operational level			
Ensure compliance with pollution prevention requirements and the protection of the marine environment	*Prevention of pollution of the marine environment* Knowledge of the precautions to be observed to prevent pollution of the marine environment Knowledge of the impacts of fishing on the environment including pollution related to abandoned, lost or otherwise discarded	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed

Column 1 **Competence**	Column 2 **Knowledge, understanding and proficiency**	Column 3 **Methods for demonstrating competence**	Column 4 **Criteria for evaluating competence**
	fishing gear in the context of annex V of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 thereto Understanding the importance of proactive measures to protect the marine environment	.4 approved laboratory equipment training	
Maintain seaworthiness of the vessel	*Vessel stability* Ability to use stability data, stability and trim tables and precalculated operating conditions Knowledge of: .1 the effects of suspended weight on stability .2 the effects of fishing gear operations on stability .3 the risks of following and quartering seas *Fishing vessel construction* General knowledge of the principal structural members of a vessel Understanding of the fundamentals of watertight integrity	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training .5 application of vessel stability data	The stability conditions comply with the IMO intact stability criteria under all conditions of loading Actions to ensure and maintain the watertight integrity of the vessel are in accordance with accepted practice

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Prevent, control and fight fires on board	*Fire prevention and fire-fighting appliances* Ability to organize fire drills Knowledge of classes and chemistry of fire Knowledge of fire-fighting systems Knowledge of action to be taken in the event of fire Knowledge of fire prevention measures and use of fire-fighting appliances	Assessment of evidence obtained from approved fire-fighting training and experience	The type and scale of the problem is promptly identified and initial actions conform with the emergency procedure and contingency plans for the vessel Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly The order of priority, and the levels and timescales of making reports and informing personnel on board, are relevant to the nature of the emergency and reflect the urgency of the problem
Operate life-saving appliances	*Life-saving* Knowledge of life-saving appliances provided on fishing vessels Organization of abandon ship drills and use of the equipment Knowledge of survival techniques Knowledge of personal responsibility	Assessment of evidence obtained from examination or approved training	Actions in responding to abandon ship and survival situations are appropriate to the prevailing circumstances and conditions and comply with accepted safety practices and standards

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Medical aid	*Medical aid* Knowledge of first aid procedures. Practical application of medical guides and advice by radio	Assessment of evidence obtained from approved training	The identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimizes immediate threat to life
Monitor compliance with legislative requirements	Basic working knowledge of the relevant IMO conventions and other relevant international instruments concerning safety of life at sea and protection of the marine environment Basic working knowledge of relevant international instruments concerning the responsible conservation, fishing management, responsible fisheries and development of living aquatic resources as well as key international instruments related to the fight against illegal, unreported and unregulated (IUU) fishing Understanding of the requirements which crews shall comply with Understanding the importance of sustainable development of the fishing industry	Assessment of evidence obtained from examination or approved training	Legislative requirements relating to safety of life at sea and protection of the marine environment are correctly identified

Section A-II/5-1-1

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

Standard of competence

1 Every candidate for certification as chief engineer officer and second engineer officer of fishing vessels powered by main propulsion machinery of 3,000 kW power or more shall be required to demonstrate abilities to undertake, the tasks, duties and responsibilities listed in column 1 of table A-II/5-1.

2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/5-1. This incorporates, expands and extends in depth the subjects listed in column 2 of table A-II/5-2 for officers in charge of an engineering watch.

3 Bearing in mind that a second engineer officer shall be in a position to assume the responsibilities of the chief engineer officer at any time, assessment in these subjects shall be designed to test the candidate's ability to assimilate all available information that affects the safe operation of the vessel’s machinery and the protection of the marine environment.

4 The level of knowledge of the subjects listed in column 2 of table A-II/5-1 shall be sufficient to enable the candidate to serve in the capacity of chief engineer officer or second engineer officer.

5 The Administration may omit knowledge requirements for types of propulsion machinery other than those machinery installations for which the certificate to be awarded shall be valid. A certificate awarded on such a basis shall not be valid for any category of machinery installation which has been omitted until the engineer officer proves to be competent in these knowledge requirements. Any such limitation shall be stated on the certificate and in the endorsement.

6 Every candidate for certification shall be required to provide evidence of having achieved 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-II/5-1.

Table A-II/5-1

Specification of minimum standard of competence for chief engineer officers and second engineer officers of fishing vessels powered by main propulsion machinery of 3,000 kW propulsion power or more

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Manage the operation of propulsion plant machinery Note: the Administration may omit knowledge requirements for types of propulsion machinery other than machinery installations for which the certificate to be awarded is to be valid	Design features, and operative mechanism of the following machinery and associated auxiliaries: .1 marine diesel engine .2 marine steam turbine .3 marine gas turbine .4 marine steam boiler	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Explanation and understanding of design features and operating mechanisms are appropriate

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Plan and schedule operations Note: the Administration may omit knowledge requirements for types of propulsion machinery other than machinery installations for which the certificate to be awarded is to be valid	*Theoretical knowledge* Thermodynamics and heat transmission Mechanics and hydromechanics Propulsive characteristics of diesel engines, steam and gas turbines, including speed, output and fuel consumption Heat cycle, thermal efficiency and heat balance of the following: .1 marine diesel engine .2 marine steam turbine .3 marine gas turbine .4 marine steam boiler Refrigerators and refrigeration cycle Physical and chemical properties of fuels and lubricants Technology of materials Naval architecture and vessel construction, including damage control	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	The planning and preparation of operations is suited to the design parameters of the power installation and to the requirements of the voyage
Operation, surveillance, performance assessment and maintaining safety of	*Practical knowledge* Start up and shut down main propulsion and auxiliary	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience	The methods of preparing for the start-up and of making available fuels, lubricants, cooling water and air

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
propulsion plant and auxiliary machinery	machinery, including associated systems Operating limits of propulsion plant The efficient operation, surveillance, performance assessment and maintaining safety of propulsion plant and auxiliary machinery Functions and mechanism of automatic control for main engine Functions and mechanism of automatic control for auxiliary machinery including but not limited to: .1 generator distribution systems .2 steam boilers .3 oil purifier .4 refrigeration system .5 pumping and piping systems .6 steering gear system .7 catch-handling equipment and deck machinery	.2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	are the most appropriate Checks of pressures, temperatures and revolutions during the start-up and warm-up period are in accordance with technical specifications and agreed work plans Surveillance of main propulsion plant and auxiliary systems is sufficient to maintain safe operating conditions The methods of preparing the shutdown and of supervising the cooling down of the engine are the most appropriate The methods of measuring the load capacity of the engines are in accordance with technical specifications Performance is checked against bridge orders Performance levels are in accordance with technical specifications
Manage fuel, lubrication and ballast operations	Operation and maintenance of machinery, including pumps and piping systems	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience	Fuel and ballast operations meet operational requirements and are carried out so as to prevent pollution

Column 1 **Competence**	Column 2 **Knowledge, understanding and proficiency**	Column 3 **Methods for demonstrating competence**	Column 4 **Criteria for evaluating competence**
		.2 approved training vessel experience .3 approved simulator training, where appropriate	of the marine environment
Manage operation of electrical and electronic control equipment	*Theoretical knowledge* Marine electrotechnology, electronics power electronics, automatic control engineering and safety devices Design features and system configurations of automatic control equipment and safety devices for the following: .1 main engine .2 generator and distribution system .3 steam boiler Design features and system configurations of operational control equipment for electrical motors Features of hydraulic and pneumatic control equipment	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Operation of equipment and system is in accordance with operating manuals Performance levels are in accordance with technical specifications
Manage troubleshooting, restoration of electrical and electronic control equipment to operating condition	*Practical knowledge* Troubleshooting of electrical and electronic control equipment Function test of electrical, electronic control equipment and safety devices	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience	Maintenance activities are correctly planned in accordance with technical, legislative, safety and procedural specifications

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Troubleshooting of monitoring systems Software version control	.3 approved simulator training, where appropriate .4 approved laboratory equipment training	Inspection, testing and troubleshooting of equipment are appropriate
Manage safe and effective maintenance and repair procedures	*Theoretical knowledge* Marine engineering practice *Practical knowledge* Manage safe and effective maintenance and repair procedures Planning maintenance, including statutory and class verifications Planning repairs	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved workshop training	Maintenance activities are correctly planned and carried out in accordance with technical, legislative, safety and procedural specifications Appropriate plans, specifications, materials and equipment are available for maintenance and repair Action taken leads to the restoration of plant by the most suitable method
Detect and identify the cause of machinery malfunctions and correct faults	*Practical knowledge* Detection of machinery malfunction, location of faults and action to prevent damage Inspection and adjustment of equipment Non-destructive examination	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	The methods of comparing actual operating conditions are in accordance with recommended practices and procedures Actions and decisions are in accordance with recommended operating specifications and limitations
Ensure safe working practices	*Practical knowledge* Safe working practices	Examination and assessment of evidence obtained from one or more of the following:	Working practices are in accordance with legislative requirements, codes

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
		.1 approved in-service experience .2 approved training vessel experience .3 approved laboratory equipment training	of practice, permits to work and environmental concerns
Control trim and stability	Understanding of fundamental principles of vessel construction and the theories and factors affecting trim and stability and measures necessary to preserve trim and stability Knowledge of the effect on trim and stability of a vessel in the event of damage to, and consequent flooding of a compartment and countermeasures to be taken Knowledge of IMO recommendations concerning vessel stability	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate	Stability and loading conditions are maintained within safety limits at all times
Maintain safety of the vessel and crew and the operational condition of life-saving and fire-fighting appliances	*Fire prevention and fire-fighting appliances* Organization of fire drills Classes and chemistry of fire Fire-fighting systems Understanding of action to be taken in the event of fire, including fires involving oil systems	Assessment of evidence obtained from approved training	Procedures for monitoring fire detection and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established emergency procedures

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Knowledge of provisions concerning fire-fighting equipment Knowledge of fire prevention measures *Life-saving* Thorough knowledge of life-saving appliances provided on fishing vessels. Ability to organize abandon ship drills and knowledge of the operation of survival craft and rescue boats, their launching appliances and arrangements, and their equipment, including radio life-saving appliances, EPIRBs, SARTs, immersion suits and thermal protective aids Actions to be taken to protect and safeguard all persons on board in emergencies Actions to limit damage and salve the vessel following a fire, explosion, collision or grounding *Maintenance* Maintenance of operational condition of life-saving, fire-fighting and other safety systems		

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Develop emergency and damage control plans and handle emergency situations	Vessel construction, including damage control Methods and aids for fire prevention, detection and extinction Functions and use of life-saving appliances	Examination and assessment of evidence obtained from approved in-service training and experience	Emergency procedures are in accordance with the established plans for emergency situations

Section A-II/5-1-2

Mandatory minimum requirements for certification of chief engineer officers and second engineer officers on fishing vessels powered by main propulsion machinery of between 750 kW and 3,000 kW propulsion power

Standard of competence

1 Every candidate for certification as chief engineer officer and second engineer officer of seagoing fishing vessels powered by main propulsion machinery of between 750 kW and 3,000 kW power shall be required to demonstrate ability to undertake, at the management level, the tasks, duties and responsibilities listed in column 1 of table A-II/5-1.

2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/5-1. This incorporates, expands and extends in depth the subjects listed in column 2 of table A-II/5-2 for officers in charge of an engineering watch.

3 Bearing in mind that a second engineer officer shall be in a position to assume the responsibilities of the chief engineer officer at any time, assessment in these subjects shall be designed to test the candidate's ability to assimilate all available information that affects the safe operation of the vessel’s machinery and the protection of the marine environment.

4 The level of knowledge of the subjects listed in column 2 of table A-II/5-1 may be lowered but shall be sufficient to enable the candidate to serve in the capacity of chief engineer officer or second engineer officer at the range of propulsion power specified in this section.

5 Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall take into account the relevant requirements of this part.

6 The Administration may omit knowledge requirements for types of propulsion machinery other than those machinery installations for which the certificate to be awarded shall be valid. A certificate awarded on such a basis shall not be valid for any category of machinery installation which has been omitted until the engineer officer proves to be competent in these knowledge requirements. Any such limitation shall be stated on the certificate and in the endorsement.

7 Every candidate for certification shall be required to provide evidence of having achieved 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-II/5-1.

Section A-II/5-2

Mandatory minimum requirements for certification of officers in charge of an engineering watch in a manned engine-room or designated duty engineers in a periodically unmanned engine-room of fishing vessels powered by main propulsion machinery of 750 kW propulsion power or more

Standard of competence

1 Every candidate for certification as officer in charge of an engineering watch in a manned engine-room or designated duty engineers in a periodically unmanned engine-room shall be required to demonstrate abilities to undertake, the tasks, duties and responsibilities listed in column 1 of table A-II/5-2.

2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/5-2.

3 The level of knowledge of the subjects listed in column 2 of table A-II/5-2 shall be sufficient to enable the candidate to serve in the capacity of engineer officer.

4 The Administration may omit knowledge requirements for types of propulsion machinery other than those machinery installations for which the certificate to be awarded shall be valid. A certificate awarded on such a basis shall not be valid for any category of machinery installation which has been omitted until the engineer officer proves to be competent in these knowledge requirements. Any such limitation shall be stated on the certificate and in the endorsement.

5 Every candidate for certification shall be required to provide evidence of having achieved 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-II/5-2.

Onboard training

6 Every candidate for certification as officer in charge of an engineering watch of a fishing vessel powered by main propulsion machinery of 750 kW or more whose seagoing service, in accordance with paragraphs 2.2 and 2.3 of regulation II/5-2, forms part of a training programme approved as meeting the requirements of this section shall follow an approved programme of onboard training which:

.1 ensures that, during the required period of seagoing service, the candidate receives systematic practical training and experience in the tasks, duties and responsibilities of an officer in charge of an engine-room watch;

.2 is closely supervised and monitored by a qualified and certificated engineer officer, or another appropriately experienced officer on board the vessels in which the approved seagoing service is performed; and

.3 is adequately documented in a training record book.

Table A-II/5-2

Specification of minimum standard of competence for officers in charge of an engineering watch in a manned engine-room or designated duty engineers in a periodically unmanned engine-room

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Function: Marine Engineering at the operational level			
Maintain a safe engineering watch	Thorough knowledge of principles to be observed in keeping an engineering watch, including: .1 duties associated with taking over and accepting a watch .2 routine duties undertaken during a watch .3 maintenance of the machinery space logs and the significance of the readings taken .4 duties associated with handing over a watch Safety and emergency procedures; changeover of remote/automatic to local control of all systems Safety precautions to be observed during a watch and immediate actions to be taken in the event of fire or accident, with particular reference to oil systems	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	The conduct, handover and relief of the watch conforms with accepted principles and procedures The frequency and extent of monitoring of engineering equipment and systems conforms to manufacturers' recommendations and accepted principles and procedures, including principles to be observed in keeping an engineering watch A proper record is maintained of the movements and activities relating to the vessel's engineering systems

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Use English in written and oral form	Adequate knowledge of the English language to enable the officer to use engineering publications and to perform engineering duties	Examination and assessment of evidence obtained from practical instruction	English language publications relevant to engineering duties are correctly interpreted Communications are clear and understood
Use internal communication systems	Operation of all internal communication systems on board	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Transmission and reception of messages are consistently successful Communication records are complete, accurate and comply with statutory requirements
Operate main and auxiliary machinery and associated control systems Note: the Administration may omit knowledge requirements for types of propulsion machinery other than machinery installations for which the certificate to be awarded is to be valid	Basic construction and operation principles of machinery systems, including: .1 marine diesel engine .2 marine steam turbine .3 marine gas turbine .4 marine boiler .5 shafting installations, including propeller .6 other auxiliaries, including various pumps, air compressor, purifier, freshwater generator,	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved laboratory equipment training	Construction and operating mechanisms can be understood and explained with drawings/instructions

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	heat exchanger, refrigeration, air conditioning and ventilation systems .7 steering gear .8 automatic control systems .9 fluid flow and characteristics of lubricating oil, fuel oil and cooling systems .10 deck machinery Safety and emergency procedures for operation of propulsion plant machinery, including control systems Preparation, operation, fault detection and necessary measures to prevent damage for the following machinery items and control systems: .1 main engine and associated auxiliaries .2 steam boiler and associated auxiliaries and steam systems .3 auxiliary prime movers and associated systems .4 other auxiliaries, including refrigeration, air conditioning and ventilation systems	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Operations are planned and carried out in accordance with operating manuals, established rules and procedures to ensure safety of operations and avoid pollution of the marine environment Deviations from the norm are promptly identified The output of plant and engineering systems consistently meets requirements, including bridge orders relating to changes in speed and direction The causes of machinery malfunctions are promptly identified,

Column 1 Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Methods for demonstrating competence	Column 4 Criteria for evaluating competence
			and actions are designed to ensure the overall safety of the vessel and the plant, having regard to the prevailing circumstances and conditions
Operate fuel, lubrication, ballast and other pumping systems and associated control systems	Operational characteristics of pumps and piping systems, including control systems Operation of pumping systems: .1 routine pumping operations .2 operation of bilge and ballast pumping systems Oily-water separators (or similar equipment) requirements and operation	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Operations are planned and carried out in accordance with operating manuals, established rules and procedures to ensure safety of operations and avoid pollution of the marine environment Deviations from the norm are promptly identified and appropriate action is taken
Function: Electrical, electronic and control engineering at the operational level			
Operate electrical, electronic and control systems	Basic configuration and operation principles of the following electrical, electronic and control equipment: .1 electrical equipment: .1 generator and distribution systems .2 preparing, starting, paralleling and changing over generators	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Operations are planned and carried out in accordance with operating manuals, established rules and procedures to ensure safety of operations Electrical, electronic and control systems can be understood and explained with drawings/instructions

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.3 electrical motors including starting methodologies .4 high-voltage installations .5 sequential control circuits and associated system devices .2 electronic equipment: .1 characteristics of basic electronic circuit elements .2 flow chart for automatic and control systems .3 functions, characteristics and features of control systems for machinery items, including main propulsion plant operation control and steam boiler automatic controls .3 control systems: .1 various automatic control methodologies and characteristics .2 Proportional-Integral-Derivative (PID) control characteristics and associated system devices for process control		
Maintenance and repair of electrical and	Safety requirements for working on shipboard electrical	Examination and assessment of evidence obtained	Safety measures for working are appropriate

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
electronic equipment	systems, including the safe isolation of electrical equipment required before personnel are permitted to work on such equipment Maintenance and repair of electrical system equipment, switchboards, electric motors, generator and DC electrical systems and equipment Detection of electric malfunction, location of faults and measures to prevent damage Construction and operation of electrical testing and measuring equipment Function and performance tests of the following equipment and their configuration: .1 monitoring systems .2 automatic control devices .3 protective devices The interpretation of electrical and simple electronic diagrams	from one or more of the following: .1 approved workshop skills training .2 approved practical experience and tests .3 approved in-service experience .4 approved training vessel experience	Selection and use of hand tools, measuring instruments and testing equipment are appropriate and interpretation of results is accurate Dismantling, inspecting, repairing and reassembling equipment are in accordance with manuals and good practice Reassembling and performance testing is in accordance with manuals and good practice
Function: Maintenance and repair at the operational level			
Appropriate use of hand tools, machine tools and measuring instruments for fabrication and repair on board	Characteristics and limitations of materials used in construction and repair of vessels and equipment	Assessment of evidence obtained from one or more of the following: .1 approved workshop skills training	Identification of important parameters for fabrication of typical vessel-related components is appropriate

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Characteristics and limitations of processes used for fabrication and repair Properties and parameters considered in the fabrication and repair of systems and components Methods for carrying out safe emergency/temporary repairs Safety measures to be taken to ensure a safe working environment and for using hand tools, machine tools and measuring instruments Use of hand tools, machine tools and measuring instruments Use of various types of sealants and packings	.2 approved practical experience and tests .3 approved in-service experience .4 approved training vessel experience	Selection of materials is appropriate Fabrication is to designated tolerances Use of equipment and hand tools, machine tools and measuring instruments is appropriate and safe

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Maintenance and repair of shipboard machinery and equipment	Safety measures to be taken for repair and maintenance, including the safe isolation of shipboard machinery and equipment required before personnel are permitted to work on such machinery or equipment Appropriate basic mechanical knowledge and skills Maintenance and repair, such as dismantling, adjustment and reassembling of machinery and equipment The use of appropriate specialized tools and measuring instruments Design characteristics and selection of materials in construction of equipment Interpretation of machinery drawings and handbooks Interpretation of piping, hydraulic and pneumatic diagrams	Examination and assessment of evidence obtained from one or more of the following: .1 approved workshop skills training .2 approved practical experience and tests .3 approved in-service experience .4 approved training vessel experience	Safety procedures followed are appropriate Selection of tools and spare gear is appropriate Dismantling, inspecting, repairing and reassembling equipment is in accordance with manuals and good practice Recommissioning and performance testing is in accordance with manuals and good practice Selection of materials and parts is appropriate

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Function: Controlling the operation of the vessel and care for persons on board at the operational level			
Ensure compliance with pollution prevention requirements	*Prevention of pollution of the marine environment* Knowledge of the impacts of fishing on the environment Knowledge of the precautions to be taken to prevent pollution of the marine environment Anti-pollution procedures and all associated equipment Understanding the importance of proactive measures to protect the marine environment	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved training	Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed Actions to ensure that a positive environmental reputation is maintained
Maintain seaworthiness of the vessel	*Vessel stability* Working knowledge and application of stability, trim and stress tables, diagrams and stress-calculating equipment Understanding of the fundamentals of watertight integrity Understanding of fundamental actions to be taken in the event of partial loss of intact buoyancy *Vessel construction* General knowledge of the principal structural members of a vessel and the proper names for the various parts	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training vessel experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	The stability conditions comply with IMO intact stability criteria under all conditions of loading Actions to ensure and maintain the watertight integrity of the vessel are in accordance with accepted practice

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Prevent, control and fight fires on board	*Fire prevention and fire-fighting appliances* Ability to organize fire drills Knowledge of classes and chemistry of fire Knowledge of fire-fighting systems Knowledge of action to be taken in the event of fire Knowledge of fire prevention measures and use of fire-fighting appliances	Assessment of evidence obtained from approved fire-fighting training and experience	The type and scale of the problem is promptly identified and initial actions conform with the emergency procedure and contingency plans for the vessel Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly The order of priority, and the levels and timescales of making reports and informing personnel on board, are relevant to the nature of the emergency and reflect the urgency of the problem
Operate life-saving appliances	*Life-saving* Ability to direct abandon ship drills and knowledge of the operation of life-saving appliances and their equipment, including the two-way radio-telephone apparatus Survival at sea techniques including participation in an approved survival at sea course	Assessment of evidence obtained from examination or approved training	Actions in responding to abandon ship and survival situations are appropriate to the prevailing circumstances and conditions and comply with accepted safety practices and standards
Medical aid	*Medical aid* Knowledge of first aid procedures	Assessment of evidence obtained from approved training	The identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimizes

Column 1 **Competence**	Column 2 **Knowledge, understanding and proficiency**	Column 3 **Methods for demonstrating competence**	Column 4 **Criteria for evaluating competence**
	Practical application of medical guides and advice by radio		immediate threat to life
Monitor compliance with legislative requirements	Basic working knowledge of the relevant IMO conventions and other relevant international instruments concerning safety of life at sea and protection of the marine environment Basic working knowledge of relevant international instruments concerning the responsible conservation, fishing management, responsible fisheries and development of living aquatic resources as well as key international instruments related to the fight against illegal, unreported and unregulated (IUU) fishing Understanding of the requirements which crews shall comply with Understanding the importance of sustainable development of the fishing industry	Assessment of evidence obtained from examination or approved training	Legislative requirements relating to safety of life at sea and protection of the marine environment are correctly identified

Section A-II/6
Mandatory minimum requirements for certification of GMDSS radio operators on board fishing vessels

Application

(No provisions)

Standard of competence

1 The minimum knowledge, understanding and proficiency required for certification of GMDSS radio operators shall be sufficient for radio operators to carry out their radio duties. The knowledge required for obtaining each type of certificate defined in the Radio Regulations shall be in accordance with those regulations. In addition, every candidate for certification of competency shall be required to demonstrate abilities to undertake the tasks, duties and responsibilities listed in column 1 of table A-II/6.

2 The knowledge, understanding and proficiency for endorsement under the Convention of certificates issued under the provisions of the Radio Regulations are listed in column 2 of table A-II/6.

3 The level of knowledge of the subjects listed in column 2 of table A-II/6 shall be sufficient for the candidate to carry out his or her duties.

4 Every candidate shall provide evidence of having achieved the required standard of competence through:

.1 demonstration of competence to perform the tasks and duties and to assume responsibilities listed in column 1 of table A-II/6, in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of that table; and

.2 examination or continuous assessment as part of an approved course of training based on the material set out in column 2 of table A-II/6.

Table A-II/6

Specification of minimum standard of competence for GMDSS radio operators

Function: Radiocommunication at the operational level

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Transmit and receive information using GMDSS subsystems and equipment and fulfilling the functional requirements of GMDSS	In addition to the requirements of the Radio Regulations, a knowledge of: .1 search and rescue radiocommunications, including procedures in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual .2 the means to prevent the transmission of false distress alerts and the procedures to mitigate the effects of such alerts .3 ship reporting systems .4 radio medical services .5 use of the International Code of Signals and the IMO Standard Marine Communication Phrases .6 the English language, both written and spoken, for the communication of information relevant to safety of life at sea Note: this requirement may be reduced in the case of the Restricted Radio Operator's Certificate	Examination or assessment of evidence obtained from practical demonstration of operational procedures using: .1 approved equipment .2 GMDSS communication simulator, where appropriate .3 radiocommunications laboratory equipment	Transmission and reception of communications complies with international regulations and procedures, and are carried out efficiently and effectively English language messages relevant to the safety of the vessel and persons on board, and protection of the marine environment are correctly handled

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Provide radio services in emergencies	The provision of radio services in emergencies such as: .1 abandon ship .2 fire on board vessel .3 partial or full breakdown of radio installations Preventive measures for the safety of vessel and personnel in connection with hazards related to radio equipment, including electrical and non-ionizing radiation hazards	Examination or assessment of evidence obtained from practical demonstration of operational procedures using: .1 approved equipment .2 GMDSS communication simulator, where appropriate .3 radiocommunication laboratory equipment	Response is carried out efficiently and effectively

Section A-II/7
Revalidation of certificates for skippers and officers

Professional competence

1 Continued professional competence as required under regulation II/7, shall be established by:

.1 approved seagoing service, performing functions appropriate to the certificate held, for a period of at least:

.1 twelve months in total during the preceding five years; or

.2 three months in total during the preceding six months immediately prior to revalidating; or

.2 having performed functions considered to be equivalent to the seagoing service required in paragraph 1.1; or

.3 passing an approved test; or

.4 successfully completing an approved training course or courses; or

.5 having completed approved seagoing service, performing functions appropriate to the certificate held, for a period of not less than three months in a supernumerary capacity, or in a lower officer rank than that for which the certificate held is valid immediately prior to taking up the rank for which it is valid.

2 The refresher and updating courses required by regulation II/7 shall be approved and include changes in relevant national and international regulations concerning the safety of life at sea and the protection of the marine environment and take account of any updating of the standard of competence concerned.

Section A-II/8
Revalidation of certificates for GMDSS radio operators

Professional competence

1 Continued professional competence, as required under regulation II/8, shall be established by:

.1 approved seagoing service, performing functions appropriate to the certificate held for a period of at least:

.1 twelve months in total during the preceding five years; or

.2 three months in total during the preceding six months immediately prior to revalidating; or

.2 having performed functions considered to be equivalent to the seagoing service required in paragraph 1.1; or

.3 passing an approved test; or

.4 successfully completing an approved training course or courses; or

.5 having completed approved seagoing service performing functions appropriate to the certificate held for a period of not less than three months in a supernumerary capacity, or in a lower officer rank than that for which the certificate held is valid immediately prior to taking up the rank for which it is valid.

2 The refresher and updating courses required by regulation II/8 shall be approved and include changes in relevant national and international regulations concerning the safety of life at sea and the protection of the marine environment and take account of any updating of the standard of competence concerned.

Chapter III
Standards regarding basic training and onboard safety familiarization for all fishing vessel personnel

Section A-III/1
Mandatory minimum requirements for basic training and onboard safety familiarization for all fishing vessel personnel

Basic training

1 Fishing vessel personnel shall, before being assigned to any shipboard duties:

.1 receive appropriate approved basic training or instruction in:

.1 personal survival techniques as set out in table A-III/1-1;

.2 fire prevention and fire fighting as set out in table A-III/1-2;

.3 elementary first aid as set out in table A-III/1-3; and

.4 personal safety and social responsibilities as set out in table A-III/1-4;

.2 be required to provide evidence of having achieved the required standard of competence to undertake the tasks, duties and responsibilities listed in column 1 of tables A-III/1-1, A-III/1-2, A-III/1-3 and A-III/1-4 through:

.1 demonstration of competence, in accordance with the methods and the criteria for evaluating competence tabulated in columns 3 and 4 of those tables; and

.2 examination or continuous assessment as part of an approved training programme in the subjects listed in column 2 of those tables.

2 Fishing vessel personnel qualified in accordance with paragraph 1 in basic training shall be required, every five years, to provide evidence of having maintained the required standard of competence, to undertake the tasks, duties and responsibilities listed in column 1 of tables A-III/1-1 and A-III/1-2.

3 Parties may accept onboard training and experience for maintaining the required standard of competence in the following areas:

.1 personal survival techniques as set out in table A-III/1-1:

.1 don a lifejacket;

.2 board a survival craft from the vessel, while wearing a lifejacket;

.3 take initial actions on boarding a lifeboat to enhance chance of survival;

.4 stream a lifeboat drogue or sea anchor;

.5 operate survival craft equipment; and

.6 operate locating devices, including radio equipment;

.2 fire prevention and fire fighting as set out in table A-III/1-2:

.1 use self-contained breathing apparatus; and

.2 effect a rescue in a smoke-filled space, using an approved smoke-generating device aboard, while wearing a breathing apparatus.

Onboard safety familiarization training

4 Before being assigned to shipboard duties, all persons employed or engaged on a seagoing fishing vessel, shall receive onboard safety familiarization training or receive sufficient information and instruction, taking into account guidance given in part B, to be able to:

.1 communicate with other persons on board on elementary safety matters and understand safety information symbols, signs and alarm signals;

.2 know what to do if:

.1 a person falls overboard;

.2 fire or smoke is detected; or

.3 the fire or abandon ship alarm is sounded;

.3 identify muster and embarkation stations and emergency escape routes;

.4 locate and don lifejackets;

.5 raise the alarm and have basic knowledge of the use of portable fire extinguishers;

.6 take immediate action upon encountering an accident or other medical emergency before seeking further medical assistance on board; and

.7 close and open the fire, weathertight and watertight doors fitted in the particular fishing vessel other than those for hull opening.

Exemptions

5 The Administration may, in respect of fishing vessels of less than 24 metres in length and/or operating solely in its limited waters, if it considers that a fishing vessel's size and the length or character of its voyage are such as to render the application of the full requirements of this section unreasonable or impracticable, exempt to that extent the fishing vessel personnel on such a fishing vessel or class of fishing vessel from some of the requirements, bearing in mind the safety of people on board, the fishing vessel and property and the protection of the marine environment.

Table A-III/1-1

Specification of minimum standard of competence in personal survival techniques

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Survive at sea in the event of ship abandonment	Types of emergency situations which may occur, such as collision, fire, foundering Types of life-saving appliances normally carried on board fishing vessels Equipment in survival craft Location of personal life-saving appliances Principles concerning survival, including: .1 value of training and drills .2 personal protective clothing and equipment .3 need to be ready for any emergency .4 actions to be taken when called to survival craft stations .5 actions to be taken when required to abandon ship .6 actions to be taken when in the water .7 actions to be taken when aboard a survival craft .8 assistance to others to board a survival craft	Assessment of evidence obtained from approved instruction or during attendance at an approved course or approved in-service experience and examination, including practical demonstration of competence to: .1 don a lifejacket .2 don and use an immersion suit .3 safely jump from a height into the water .4 right an inverted liferaft while wearing a lifejacket .5 swim while wearing a lifejacket .6 keep afloat without a lifejacket .7 board a survival craft from the vessel and water while wearing a lifejacket .8 take initial actions on boarding survival craft to enhance chance of survival .9 stream a drogue or sea anchor .10 operate survival craft equipment	Action taken on identifying muster signals is appropriate to the indicated emergency and complies with established procedures The timing and sequence of individual actions are appropriate to the prevailing circumstance and conditions and minimize potential dangers and threats to survival Method of boarding survival craft is appropriate and avoids dangers to other survivors Initial actions after leaving the vessel and procedures and actions in water minimize threats to survival Description of how to assist others to board a survival craft Initial action after identifying a man overboard situation

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	.9 main dangers to survivors Basic knowledge of man overboard procedures and for rescuing persons from the sea	.11 operate locating devices, including radio equipment	

Table A-III/1-2

Specification of minimum standard of competence in fire prevention and fire fighting

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Minimize the risk of fire and maintain a state of readiness to respond to emergency situations involving fire	Shipboard fire-fighting organization Location of fire-fighting appliances and emergency escape routes The elements of fire and explosion (the fire triangle) Types and sources of ignition Flammable materials, fire hazards and spread of fire including but not limited to: .1 radiation .2 convection .3 conduction with emphasis on dangers associated with freezing equipment The need for constant vigilance Actions to be taken on board vessel Fire and smoke detection and automatic alarm systems Classification of fire and applicable extinguishing agents	Assessment of evidence obtained from approved instruction or attendance at an approved course	Initial actions on becoming aware of an emergency conform with accepted practices and procedures Action taken on identifying muster signals is appropriate to the indicated emergency and complies with established procedures

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Fight and extinguish fires	Fire-fighting equipment and its location on board Instruction in: .1 fixed installations .2 fire-fighter's outfits .3 personal equipment .4 fire-fighting appliances and equipment .5 fire-fighting methods .6 fire-fighting agents .7 fire-fighting procedures .8 use of breathing apparatus for fighting fires and effecting rescues .9 the effect of the use of the wrong agent	Assessment of evidence obtained from approved instruction or during attendance at an approved course, including practical demonstration in spaces which provide truly realistic training conditions (e.g. simulated shipboard conditions) and, whenever possible and practical, in darkness, of the ability to: .1 use various types of portable fire extinguishers .2 use self-contained breathing apparatus .3 extinguish smaller fires, e.g. electrical fires, oil fires, propane fires .4 extinguish extensive fires with water, using jet and spray nozzles .5 extinguish fires with foam, powder or any other suitable chemical agent .6 fight fire in smoke-filled enclosed spaces wearing self-contained breathing apparatus .7 extinguish fire with water fog or any other suitable fire-fighting agent in an accommodation room or simulated	Clothing and equipment are appropriate to the nature of the fire-fighting operations The timing and sequence of individual actions are appropriate to the prevailing circumstances and conditions Extinguishment of fire is achieved using appropriate procedures, techniques and fire-fighting agents Breathing apparatus procedures and techniques comply with accepted practices and procedures Explanation of the effect of using the wrong extinguishing agent is appropriate

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
		engine-room with fire and heavy smoke .8 extinguish oil fire with fog applicator and spray nozzles, dry chemical powder or foam applicators .9 effect a rescue in a smoke-filled space wearing breathing apparatus	

Table A-III/1-3

Specification of minimum standard of competence in elementary first aid

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Take immediate action upon encountering as accident or other medical emergency	Assessment of needs of casualties and threats to own safety Appreciation of body structure and functions Understanding of immediate measures to be taken in cases of emergency, including the ability to: .1 position casualty .2 apply resuscitation techniques .3 control bleeding .4 apply appropriate measures of basic shock management .5 apply appropriate measures in event of burns and scalds, including accidents caused by electric current .6 rescue and transport a casualty .7 improvise bandages and use materials in the emergency kit	Assessment of evidence obtained from approved instruction or during attendance at an approved course	The manner and timing of raising the alarm is appropriate to the circumstances of the accident or medical emergency The identification of probable cause, nature and extent of injuries is prompt and complete, and the priority and sequence of actions is proportional to any potential threat to life Risk of further harm to self and casualty is minimized at all times

Table A-III/1-4

Specification of minimum standard of competence in personal safety and social responsibilities

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Comply with emergency procedures	Types of emergency which may occur, such as collision, fire, foundering Knowledge of shipboard contingency plans for response to emergencies Emergency signals and specific duties allocated to crew members in the muster list; muster stations; correct use of personal safety equipment Identification of, and action to take on discovering, potential emergencies on board fishing vessels, including fire, collision, foundering and ingress of water into the fishing vessel Action to take on hearing emergency alarm signals Value of training and drills Knowledge of escape routes and internal communication and alarm systems	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Initial action on becoming aware of an emergency conforms to established emergency response procedures Information given on raising alarm is prompt, accurate, complete and clear
Take precautions to prevent pollution of the marine environment	Basic knowledge of the impact of fishing on the marine environment and the effects of operational or accidental pollution on it	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Organizational procedures designed to safeguard the marine environment are observed at all times

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Basic knowledge of environmental protection procedures Basic knowledge of marine ecology and understanding of the complexity and diversity of the marine environment Basic knowledge of the responsibilities of fishing vessel personnel under the MARPOL Convention with regard to pollution response equipment Recognition and measures to be taken to prevent pollution by Abandoned, Lost or otherwise Discarded Fishing Gear (ALDFG) and fish packing material Basic knowledge of correct disposal of fishing gear and fish packing material Knowledge of the impacts of plastic waste on the marine environment Understanding the scale of the marine plastic litter problem and the way the maritime sector contributes to the problem, including the issue of ALDFG		Legislative requirements relating to the protection of the marine environment are correctly identified
Observe safe working practices	Importance of adhering to safe working practices at all times	Assessment of evidence obtained from approved instruction or during	Safe working practices are observed, and appropriate safety and protective equipment

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	Safety and protective devices available to protect against potential hazards aboard vessel Precautions to be taken prior to entering enclosed spaces Familiarization with international measures concerning accident prevention and occupational health Understanding of the legal requirements that control safety in the fishing industry Understanding of health and safety hazards Awareness of risks on board fishing vessel specifically during fishing operation Basic knowledge of fishing equipment on board fishing vessels and its safe use Understand what is a: .1 hazard .2 risk Basic knowledge of a risk assessment process and methods to reduce risk	attendance at an approved course	is correctly used at all times Correct identification of "hazards" likely to be found on a fishing vessel and methods to remove or reduce "risk"
Contribute to effective communications on board vessel	Understand the principles of, and barriers to, effective communication between individuals	Assessment of evidence obtained from approved instruction or during	Communications are clear and effective at all times

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
	and teams within the vessel Ability to establish and maintain effective communications	attendance at an approved course	
Contribute to effective human relationships on board vessel	Importance of maintaining good human and working relationships aboard vessel Basic teamworking principles and practice, including conflict resolution Social responsibilities; conditions for employment or engagement on board; and individual rights and obligations, and applicable legislation Understanding the dangers of drug and alcohol abuse	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Expected standards of work and behaviour are observed at all times
Understand and take necessary actions to control fatigue	Importance of obtaining the necessary rest Effects of sleep, schedules and the circadian rhythm on fatigue Effects of physical stressors on fishing vessel personnel Effects of environmental stressors in and outside the vessel and their impact on fishing vessel personnel Effects of schedule changes on fishing vessel personnel fatigue	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Fatigue management practices are observed and appropriate actions are used at all times

Chapter IV
Standards regarding watchkeeping

Section A-IV/1
Fitness for duty

(No provisions)

Section A-IV/2
Basic watchkeeping principles to be observed on board fishing vessels

Part 1 Navigational watch

Part 1-1 En route to or from fishing grounds

Arrangements of the navigational watch

1 The composition of the watch shall at all times be adequate and appropriate to the prevailing circumstances and conditions, and shall take into account the need for maintaining a proper lookout.

2 When deciding the composition of the watch the following factors, inter alia, shall be taken into account:

.1 at no time shall the wheelhouse be left unattended;

.2 weather conditions, visibility and whether there is daylight or darkness;

.3 proximity of navigational hazards which may make it necessary for the officer in charge of the watch to carry out additional navigational duties;

.4 use and operational condition of navigational aids such as radar or electronic position-indicating devices and of any other equipment affecting the safe navigation of the vessel;

.5 whether the vessel is fitted with automatic steering; and

.6 any unusual demands on the navigational watch that may arise as a result of special operational circumstances.

Navigation

3 The intended voyage shall, as far as practicable, be planned in advance taking into consideration all pertinent information, and any course laid down shall be checked before the voyage commences.

4 During the watch the course steered, position and speed shall be checked at sufficiently frequent intervals, using any available navigational aids necessary, to ensure that the vessel follows the planned course.

5 The officer in charge of the watch shall have full knowledge of the location and operation of all safety and navigational equipment on board the vessel, and shall be aware and take account of the operating limitations of such equipment.

6 The officer in charge of a navigational watch shall not be assigned or undertake any duties which would interfere with the safe navigation of the vessel.

Navigational equipment

7 The officers in charge of the watch shall make the most effective use of all navigational equipment at their disposal.

8 When using radar the officer in charge of the watch shall bear in mind the necessity to comply at all times with the provisions on the use of radar contained in the applicable regulations for preventing collisions at sea.

9 In cases of need the officer of the watch shall not hesitate to use the helm, engines, and sound and light signalling apparatus.

Navigational duties and responsibilities

10 The officer in charge of the watch shall:

.1 keep watch in the wheelhouse;

.2 in no circumstances leave the wheelhouse until properly relieved;

.3 continue to be responsible for the safe navigation of the vessel despite the presence of the skipper in the wheelhouse until informed specifically that the skipper has assumed that responsibility and this is mutually understood;

.4 notify the skipper when in any doubt as to what action to take in the interest of safety; and

.5 not hand over the watch to a relieving officer if there is reason to believe that the latter is not capable of carrying out the watchkeeping duties effectively, in which case the skipper shall be notified.

11 On taking over the watch the relieving officer shall confirm and be satisfied as to the vessel's estimated or true position and confirm its intended track, course and speed, and shall note any dangers to navigation expected to be encountered during the watch.

12 Whenever practicable a proper record shall be kept of the movements and activities during the watch relating to the navigation of the vessel.

Lookout

13 Proper lookout shall be maintained in compliance with rule 5 of the International Regulations for Preventing Collisions at Sea, 1972. It shall serve the purpose of:

.1 maintaining a continuous state of vigilance by sight and hearing as well as by all other available means, with regard to any significant changes in the operating environment;

.2 fully appraising the situation and the risk of collision, stranding and other dangers to navigation; and

.3 detecting vessels or aircraft in distress, shipwrecked persons, wrecks and debris.

14 In determining that the composition of the navigational watch is adequate to ensure that a proper lookout can continuously be maintained, the skipper shall take into account all relevant factors, including those described under paragraph 4.1 of this regulation, as well as the following factors:

.1 visibility, state of weather and sea;

.2 traffic density, and other activities occurring in the area in which the vessel is navigating;

.3 the attention necessary when navigating in or near traffic separation schemes and other routeing measures;

.4 the additional workload caused by the nature of the vessel's functions, immediate operating requirements and anticipated manoeuvres;

.5 rudder and propeller control and vessel manoeuvring characteristics;

.6 the fitness for duty of any crew members on call who may be assigned as members of the watch;

.7 knowledge of and confidence in the professional competence of the vessel's officers and crew;

.8 the experience of the officer of the navigational watch and the familiarity of that officer with the vessel's equipment, procedures, and manoeuvring capability;

.9 activities taking place on board the vessel at any particular time, and the availability of assistance to be summoned immediately to the wheelhouse when necessary;

.10 the operational status of instrumentation in the wheelhouse and controls, including alarm systems;

.11 the size of the vessel and the field of vision available from the conning position;

.12 the configuration of the wheelhouse, to the extent such configuration might inhibit a member of the watch from detecting by sight or hearing any external developments; and

.13 any relevant standards, procedures and guidelines relating to watchkeeping arrangements and fitness for duty which have been adopted by the Organization.

Protection of the marine environment

15 The skipper and the officer in charge of the watch shall be aware of the serious effects of operational or accidental pollution of the marine environment, and shall take all possible precautions to prevent such pollution, particularly within the framework of relevant international and port regulations.

Weather conditions

16 The officer in charge of the watch shall take relevant measures and notify the skipper when adverse changes in weather could affect the safety of the vessel, including conditions leading to ice accretion.

Part 1-2 Navigation with pilot embarked

17 The presence of a pilot on board does not relieve the skipper or officer in charge of the watch from their duties and obligations for the safety of the vessel. The skipper and the pilot shall exchange information regarding navigation procedures, local conditions and the vessel's characteristics. The skipper and the officer in charge of the watch shall cooperate closely with the pilot and maintain an accurate check of the vessel's position and movement.

Part 1-3 Vessels engaged in fishing or searching for fish

18 In addition to the principles enumerated in paragraph 4, the following factors shall be considered and properly acted upon by the officer in charge of the watch:

.1 other vessels engaged in fishing and their gear, own vessel's manoeuvring characteristics, particularly its stopping distance and the diameter of turning circle at sailing speed and with the fishing gear overboard;

.2 safety of the crew on deck;

.3 stability and freeboard caused by exceptional forces resulting from fishing operations, catch handling and stowage, and unusual sea and weather conditions;

.4 the proximity of offshore structures, with special regard to the safety zones; and

.5 wrecks and other underwater obstacles which could be hazardous for fishing gear.

19 When stowing the catch, attention shall be given to the essential requirements for adequate freeboard, adequate stability and watertight integrity at all times during the voyage to the landing port, taking into consideration consumption of fuel and stores, risk of adverse weather conditions and, especially in winter, risk of ice accretion on or above exposed decks in areas where ice accretion is likely to occur.

Part 1-4 Anchor watch

20 The skipper shall ensure, with a view to the safety of the vessel and the crew, that a proper watch is maintained at all times from the wheelhouse or deck on fishing vessels at anchor.

Part 2 Engineering watch

Part 2-1 Principles to be observed in keeping an engineering watch

Duties associated with taking/handing over and accepting a watch

21 The officer in charge of the engineering watch shall not hand over the watch to the relieving officer if there is reason to believe that the latter is obviously not capable of carrying out the watchkeeping duties effectively, in which case the chief engineer officer shall be notified.

22 The relieving officer of the engineering watch shall ensure that the members of the relieving engineering watch are apparently fully capable of performing their duties effectively.

23 Prior to taking over the engineering watch, relieving officers shall satisfy themselves regarding general and specific conditions relating to the safe operation of engine-room systems.

24 Before going off duty, the officer in charge of the engineering watch shall ensure that all events related to the main and auxiliary machinery which have occurred during the engineering watch are suitably recorded.

Routine duties to be undertaken during a watch

25 The officer in charge of the engineering watch shall continue to be responsible for machinery space operations, despite the presence of the chief engineer officer in the machinery spaces, until specifically informed that the chief engineer officer has assumed such responsibility, and this is mutually understood.

26 The officer in charge of the engineering watch shall be familiar with the assigned watchkeeping duties.

27 The officer in charge of the engineering watch shall be responsible for the isolation, bypassing and adjustment of all machinery under the responsibility of the engineering watch that is to be worked on, and shall record all work carried out.

Maintenance of machinery space logs and the importance of the readings taken

28 Detailed repair maintenance involving repairs to electrical, mechanical, hydraulic, pneumatic or applicable electronic equipment throughout the vessel shall be performed under the awareness of the officer in charge of the engineering watch and chief engineer officer. These repairs shall be recorded.

Part 2-2 Safety and emergency procedures; changeover of remote/automatic to local control of all systems

29 Officers in charge of the engineering watch shall:

.1 in emergencies, raise the alarm when in their opinion the situation so demands, and take all possible measures to prevent damage to the vessel and persons on board;

.2 be aware of the deck officer's needs relating to the equipment required in the loading or unloading of fish catches and the additional requirements of the ballast and other vessel stability control systems;

.3 make frequent rounds of inspection to determine possible equipment malfunction or failure, and take immediate remedial action to ensure the safety of the vessel and the environment;

.4 ensure that the necessary precautions are taken, within their area of responsibility, to prevent accidents or damage to the various electrical, electronic, hydraulic, pneumatic, mechanical and refrigeration systems of the vessel including appropriate changeover of remote/automatic to local control of all systems;

.5 ensure that all important events affecting the operation, adjustment or repair of the vessel's machinery are appropriately recorded; and

.6 pay attention to the techniques, methods and procedures necessary to prevent violation of pollution regulations of the local authorities.

Part 2-3 Safety precautions to be observed during a watch and immediate actions to be taken in the event of fire or accident, with particular reference to oil systems

30 The officer in charge of the engineering watch shall take action necessary to contain the effects of damage resulting from equipment breakdown, fire, flooding, rupture, collision, stranding, oil pollution or other cause.

31 The officer in charge of the engineering watch shall bear in mind that changes in speed, resulting from machinery malfunction, or any loss of steering, may endanger the safety of the vessel and life at sea. The bridge shall be immediately notified, in the event of fire, and of any impending action in machinery spaces that may cause reduction in the vessel's speed, imminent steering failure, stoppage of the vessel's propulsion system or any alteration in the generation of electric power or similar threat to safety. This notification, where possible, shall be accomplished before changes are made, in order to afford the bridge the maximum available time to take whatever action is possible to avoid a potential marine casualty.

32 The officer in charge of the engineering watch shall notify the chief engineer officer without delay:

.1 when engine damage or a malfunction that may endanger the safe operation of the vessel occurs;

.2 when any malfunction that may cause damage or breakdown of propulsion machinery, auxiliary machinery or monitoring and governing systems occurs; and

.3 in any emergency or if in any doubt as to what decision or measures to take.

Part 3 Radio watchkeeping

33 The skipper shall ensure that an adequate radio watch is maintained while the vessel is at sea, on appropriate frequencies, taking into account the requirements of the Radio Regulations.

STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR FISHING VESSEL PERSONNEL CODE (STCW-F CODE)

Part B
Recommended guidance regarding provisions of the annex to the 1995 STCW-F Convention

Introduction

1 This part of the STCW-F Code contains recommended guidance intended to assist Parties to the 1995 STCW-F Convention and those involved in implementing, applying or enforcing its measures to give the Convention full and complete effect in a uniform manner.

2 The measures suggested are not mandatory, and the examples given are only intended to illustrate how certain Convention requirements may be complied with. However, the recommendations in general represent an approach to the matters concerned which has been harmonized through discussion within IMO involving, where appropriate, consultation with the International Labour Organization, the International Telecommunication Union and the World Health Organization.

3 Observance of the recommendations contained in this part will assist the Organization in achieving its goal of maintaining the highest practicable standards of competence in respect of fishing vessel personnel of all nationalities and fishing vessels of all flags.

4 Guidance is provided in this part in respect of certain regulations in the annex to the Convention. The numbering of the sections of this part, therefore, corresponds with that of the regulations of the Convention. As in part A, the text of each section may be divided into numbered parts and paragraphs, but such numbering is unique to that text alone.

Chapter I
Guidance regarding general provisions

Section B-I/1

(No provisions)

Section B-I/2

(No provisions)

Section B-I/3

(No provisions)

Section B-I/4

(No provisions)

Section B-I/5-1

(No provisions)

Section B-I/5-2

(No provisions)

Section B-I/6

(No provisions)

Section B-I/7

(No provisions)

Section B-I/8

(No provisions)

Section B-I/9

(No provisions)

Section B-I/10

(No provisions)

Section B-I/11

(No provisions)

Section B-I/12
Guidance regarding medical standards

Medical examination and certification

1 Parties, in establishing fishing vessel personnel medical fitness standards and provisions, should take into account the minimum physical abilities set out in table B-I/12 and the guidance given within this section, bearing in mind the different duties of fishing vessel personnel.

2 Parties, in establishing fishing vessel personnel medical fitness standards and provisions, should follow the guidance contained in the *Guidelines on the medical examination of fishing vessel personnel*, including any subsequent versions, and any other applicable international guidelines published by the International Labour Organization, the International Maritime Organization or the World Health Organization.

3 Appropriate qualifications and experience for medical practitioners conducting medical fitness examinations of fishing vessel personnel may include occupational health or maritime health qualifications, experience of working as a fishing vessel's doctor or a fishing company doctor or working under the supervision of someone with the aforementioned qualifications or experience.

4 The premises where medical fitness examinations are carried out should have the facilities and equipment required to carry out medical fitness examinations of fishing vessel personnel.

5 Administrations should ensure that recognized medical practitioners enjoy full professional independence in exercising their medical judgement when undertaking medical examination procedures.

6 Persons applying for a medical certificate should present to the recognized medical practitioner appropriate identity documentation to establish their identity. They should also surrender their previous medical certificate.

7 Each Administration has the discretionary authority to grant a variance or waiver of any of the standards set out in table B-I/12 hereunder, based on an assessment of a medical evaluation and any other relevant information concerning an individual's adjustment to the condition and proven ability to satisfactorily perform assigned shipboard functions.

8 The medical fitness standards should, so far as possible, define objective criteria with regard to fitness for sea service, taking into account access to medical facilities and medical expertise on board fishing vessels. They should, in particular, specify the conditions under which fishing vessel personnel suffering from potentially life-threatening medical conditions that are controlled by medication may be allowed to continue to serve at sea.

9 The medical standards should also identify particular medical conditions, such as colour blindness, which might preclude fishing vessel personnel from holding particular positions on board fishing vessels.

10 The minimum in-service eyesight standards in each eye for unaided distance vision should be at least 0.1.

11 Persons requiring the use of spectacles or contact lenses to perform duties should have a spare pair or pairs, as required, conveniently available on board the fishing vessel. Any need to wear visual aids to meet the required standards should be recorded on the medical fitness certificate issued.

12 Colour vision testing should be in accordance with the International Recommendations for Colour Vision Requirements for Transport, published by the Commission Internationale de l'Eclairage (CIE 143-2001, including any subsequent versions) or equivalent test methods.

Table B-I/12

Assessment of minimum entry level and in-service physical abilities for fishing vessel personnel [3]

Shipboard task, function, event or condition[3]	**Related physical ability**	**Medical examiner should be satisfied that the candidate:**[4]
Routine movement around vessel: - on moving deck - between levels - between compartments *Note 1 applies to this row*	Maintain balance and move with agility Climb up and down vertical ladders and stairways Step over coamings Open and close watertight doors	Has no disturbance in sense of balance, does not have any impairment or disease that prevents relevant movements and physical activities Is, without assistance,[5] able to: - climb vertical ladders and stairways - step over high sills - manipulate door closing systems
Routine tasks on board: - use of hand tools - movement of vessel's stores - overhead work - valve operation - standing a four-hour watch - working in confined spaces - responding to alarms, warnings and instructions - verbal communication *Note 1 applies to this row*	Strength, dexterity and stamina to manipulate mechanical devices Lift, pull and carry a load (e.g. 18 kg) Reach upwards Stand, walk and remain alert for an extended period Work in constricted spaces and move through restricted openings Visually distinguish objects, shapes and signals Hear warnings and instructions Give a clear spoken description	Does not have a defined impairment or diagnosed medical condition that reduces ability to perform routine duties essential to the safe operation of the vessel Has ability to: - work with arms raised - stand and walk for an extended period - enter confined space - fulfil eyesight standards (table A-I/12) - fulfil hearing standards set by competent authority or take - account of international guidelines - hold normal conversation
Emergency duties[6] on board: - escape - fire fighting - evacuation *Note 2 applies to this row*	Don a lifejacket or immersion suit Escape from smoke-filled spaces Take part in fire-fighting duties, including use of breathing apparatus Take part in vessel evacuation procedures	Does not have a defined impairment or diagnosed medical condition that reduces ability to perform emergency duties essential to the safe operation of the vessel Has ability to: - don lifejacket or immersion suit - crawl - feel for differences in temperature - handle fire-fighting equipment

Shipboard task, function, event or condition[3]	**Related physical ability**	**Medical examiner should be satisfied that the candidate:**[4]
		- wear breathing apparatus (where required as part of duties)

Notes:

1 Rows 1 and 2 of the above table describe: (a) ordinary shipboard tasks, functions, events and conditions; (b) the corresponding physical abilities which may be considered necessary for the safety of a fishing vessel personnel, other crew members and the fishing vessel; and (c) high-level criteria for use by medical practitioners assessing medical fitness, bearing in mind the different duties of fishing vessel personnel and the nature of shipboard work for which they will be employed.

2 Row 3 of the above table describes: (a) emergency shipboard tasks, functions, events and conditions; (b) the corresponding physical abilities which should be considered necessary for the safety of a fishing vessel personnel, other crew members and the fishing vessel; and (c) high-level criteria for use by medical practitioners assessing medical fitness, bearing in mind the different duties of fishing vessel personnel and the nature of shipboard work for which they will be employed.

3 This table is not intended to address all possible shipboard conditions or potentially disqualifying medical conditions. Parties should specify physical abilities applicable to the category of fishing vessel personnel (such as "deck officer" and "engine rating"). The special circumstances of individuals and for those who have specialized or limited duties should receive due consideration.

4 If in doubt, the medical practitioner should quantify the degree or severity of any relevant impairment by means of objective tests, whenever appropriate tests are available, or by referring the candidate for further assessment.

5 The term "assistance" means the use of another person to accomplish the task.

6 The term "emergency duties" is used to cover all standard emergency response situations such as abandon ship or fire fighting as well as the procedures to be followed by each fishing vessel personnel to secure personal survival.

Chapter II
Guidance regarding certification of skippers, officers in charge of a navigational watch, engineer officers and radio operators

Section B-II/1

(No provisions)

Section B-II/2
Guidance regarding the certification of officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in unlimited water

1 The training regarding sustainable fisheries required in section A-II/2 should include the following theoretical and practical knowledge:

.1 recognize economic aspects of sustainable fishing, including:

.1 knowledge of economic aspects of fishing, including all costs and benefits associated with operating a fishing vessel;

.2 understanding the position of fishing vessel personnel in the supply chain (the way in which fish travel from vessel to consumers); and

.3 be able to identify ways to make fishing more economically sustainable.

.2 apply fishing management and conservation principles, including understanding:

.1 the need for fishing management for the sustainable development of the fishing industry and the international instruments to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing;

.2 the roles of scientists and governments in fisheries management; and

.3 the goals of different elements of fishing management, including responsible harvesting practices and responsible fishing gear/selectivity; and

.3 apply fishing management and conservation principles, including understanding:

.1 the need for sustainable management and development of the fishing industry;

.2 the international instruments on fisheries conservation and management and to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing;

.3 the roles of scientists, Governments and competent fisheries management authorities in fisheries management; and

.4 the goals of different elements of fishing management, including responsible harvesting practices and responsible fishing gear/selectivity; and

.4 recognize the social aspects of sustainable fisheries, including:

.1 understanding that care for the human element (social equity) and interaction with society (societal acceptance) are part of a sustainable fishing industry;

.2 understanding the elements of fair treatment of fishing vessel personnel, including but not limited to fair wages, safe working conditions and humane treatment; and

.3 basic knowledge of relevant ILO conventions and national legislation concerning safe and humane working conditions.

Section B-II/3

(No provisions)

Section B-II/4

Guidance regarding the certification of officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in limited water

1 The training regarding sustainable fisheries required in section A-II/4 should include the following theoretical and practical knowledge:

.1 recognize economic aspects of sustainable fishing, including:

.1 knowledge of economic aspects of fishing, including all costs and benefits associated with operating a fishing vessel;

.2 understanding the position of fishing vessel personnel in the supply chain (the way in which fish travel from vessel to consumers); and

.3 be able to identify ways to make fishing more economically sustainable.

.2 apply fishing management and conservation principles, including understanding:

.1 the need for fishing management for the sustainable development of the fishing industry and the international instruments to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing;

.2 the roles of scientists and governments in fisheries management; and

.3 the goals of different elements of fishing management, including responsible harvesting practices and responsible fishing gear/selectivity; and

.3 apply fishing management and conservation principles, including understanding:

.1 the need for sustainable management and development of the fishing industry;

.2 the international instruments on fisheries conservation and management and to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing;

.3 the roles of scientists, Governments and competent fisheries management authorities in fisheries management; and

.4 the goals of different elements of fishing management, including responsible harvesting practices and responsible fishing gear/selectivity; and

.4 recognize the social aspects of sustainable fisheries, including:

.1 understanding that care for the human element (social equity) and interaction with society (societal acceptance) are part of a sustainable fishing industry;

.2 understanding the elements of fair treatment of fishing vessel personnel, including but not limited to fair wages, safe working conditions and humane treatment; and

.3 basic knowledge of relevant ILO conventions and national legislation concerning safe and humane working conditions.

Section B-II/5-1-1

(No provisions)

Section B-II/5-1-2

(No provisions)

Section B-II/5-2
Guidance regarding the certification of officers in charge of an engineering watch in a manned engine-room or designated duty engineers in a periodically unmanned engine-room of fishing vessels powered by main propulsion machinery of 750 kW propulsion power or more

1 The training regarding sustainable fisheries required in section A-II/5-2 should include the following theoretical and practical knowledge:

.1 recognize economic aspects of sustainable fishing, including:

.1 knowledge of economic aspects of fishing, including all costs and benefits associated with operating a fishing vessel;

.2 understanding the position of fishing vessel personnel in the supply chain (the way in which fish travel from vessel to consumers); and

.3 be able to identify ways to make fishing more economically sustainable.

.2 apply fishing management and conservation principles, including understanding:

.1 the need for fishing management for the sustainable development of the fishing industry and the international instruments to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing;

.2 the roles of scientists and governments in fisheries management; and

.3 the goals of different elements of fishing management, including responsible harvesting practices and responsible fishing gear/selectivity; and

.3 apply fishing management and conservation principles, including understanding:

.1 the need for sustainable management and development of the fishing industry;

.2 the international instruments on fisheries conservation and management and to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing;

.3 the roles of scientists, Governments and competent fisheries management authorities in fisheries management; and

.4 the goals of different elements of fishing management, including responsible harvesting practices and responsible fishing gear/selectivity; and

.4 recognize the social aspects of sustainable fisheries, including:

.1 understanding that care for the human element (social equity) and interaction with society (societal acceptance) are part of a sustainable fishing industry;

.2 understanding the elements of fair treatment of fishing vessel personnel, including but not limited to fair wages, safe working conditions and humane treatment; and

.3 basic knowledge of relevant ILO conventions and national legislation concerning safe and humane working conditions.

Section B-II/6
Guidance regarding training and certification of GMDSS radio operators on board fishing vessels

Training related to the First-class Radioelectronic Certificate

General

1 The requirements of medical fitness, especially as to hearing, eyesight and speech, should be met by the candidate before training is commenced.

2 The training should be relevant to the provisions of the 1995 STCW-F Convention, the Radio Regulations and the 2012 Cape Town Agreement, with particular attention given to the provisions of chapter IX therein. In developing training requirements, account should be taken of at least the knowledge and training given in paragraphs 3 to 14 below.

Theory

3 Knowledge of the general principles and basic factors necessary for safe and efficient use of all subsystems and equipment required in the GMDSS, sufficient to support the practical training provisions given in paragraph 13.

4 Knowledge of the use, operation and service areas of GMDSS subsystems, including satellite system characteristics, navigational and meteorological warning systems and selection of appropriate communication circuits.

5 Knowledge of the principles of electricity and the theory of radio and electronics sufficient to meet the provisions given in paragraphs 6 to 10 below.

6 Theoretical knowledge of GMDSS radiocommunication equipment, including narrow-band direct-printing telegraphy and radio-telephone transmitters and receivers, digital selective calling equipment, ship earth stations, emergency position-indicating radio beacons (EPIRBs), marine antenna systems, radio equipment for survival craft together with all auxiliary items, including power supplies, as well as general knowledge of the principles of other equipment generally used for radionavigation, with particular reference to maintaining the equipment in service.

7 Knowledge of factors that affect system reliability, availability, maintenance procedures and proper use of test equipment.

8 Knowledge of microprocessors and fault diagnosis in systems using microprocessors.

9 Knowledge of control systems in the GMDSS radio equipment, including testing and analysis.

10 Knowledge of the use of computer software for the GMDSS radio equipment and methods for correcting faults caused by loss of software control of the equipment.

Regulations and documentation

11 Knowledge of:

.1 the 2012 Cape Town Agreement and the Radio Regulations, with particular emphasis on:

.1 distress, urgency and safety radiocommunications;

.2 avoiding harmful interference, particularly with distress and safety traffic; and

.3 prevention of unauthorized transmissions;

.2 other documents relating to operational and communication procedures for distress, urgency, safety and general radiocommunications, including charges, navigational warnings, and weather broadcasts in the Maritime Mobile Service and the Maritime Mobile Satellite Service; and

.3 use of the International Code of Signals and the IMO Standard Marine Communication Phrases.

Watchkeeping and procedures

12 Knowledge of and training in:

.1 communication procedures and discipline to prevent harmful interference in GMDSS subsystems;

.2 procedures for using propagation-prediction information to establish optimum frequencies for communications;

.3 radiocommunication watchkeeping relevant to all GMDSS subsystems, exchange of radiocommunication traffic, particularly concerning distress, urgency and safety procedures, and radio records;

.4 use of the international phonetic alphabet;

.5 monitoring a distress frequency while simultaneously monitoring or working on at least one other frequency;

.6 ship reporting systems and procedures;

.7 radiocommunication procedures of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual;

.8 radio medical systems and procedures; and

.9 causes of false distress alerts and means to avoid them.

Practical

13 Practical training, supported by appropriate laboratory work, should be given in:

.1 correct and efficient operation of all GMDSS subsystems and equipment under normal propagation conditions and under typical interference conditions;

.2 safe operation of all the GMDSS communication equipment and ancillary devices, including safety precautions;

.3 adequate and accurate keyboard skills for the satisfactory exchange of communications;

.4 operational techniques for:

.1 receiver and transmitter adjustment for the appropriate mode of operation, including digital selective calling and direct-printing telegraphy;

.2 antenna adjustment and realignment, as appropriate;

.3 use of radio life-saving appliances; and

.4 use of emergency position-indicating radio beacons (EPIRBs);

.5 antenna rigging, repair and maintenance, as appropriate;

.6 reading and understanding pictorial, logic and circuit diagrams;

.7 use and care of those tools and test instruments necessary to carry out at-sea electronic maintenance;

.8 manual soldering and desoldering techniques, including those involving semiconductor devices and modern circuits, and the ability to distinguish whether the circuit is suitable to be manually soldered or desoldered;

.9 tracing and repair of faults to component level, where practicable, and to board/module level in other cases;

.10 recognition and correction of conditions contributing to the fault occurring;

.11 maintenance procedures, both preventive and corrective, for all GMDSS communication equipment and radionavigation equipment; and

.12 methods of alleviating electrical and electromagnetic interference such as bonding, shielding and bypassing.

Miscellaneous

14 Knowledge of and/or training in:

.1 the English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea;

.2 world geography, especially the principal shipping routes, services of rescue coordination centres (RCCs) and related communication routes;

.3 survival at sea, the operation of lifeboats, rescue boats, liferafts, buoyant apparatus and their equipment, with special reference to radio life-saving appliances;

.4 fire prevention and fire fighting, with particular reference to the radio installation;

.5 preventive measures for the safety of vessel and personnel in connection with hazards related to radio equipment, including electrical, radiation, chemical and mechanical hazards;

.6 first aid, including heart-respiration revival techniques; and

.7 Coordinated Universal Time (UTC), global time zones and the international date line.

Training related to the Second-class Radioelectronic Certificate

General

15 The requirements of medical fitness, especially as to hearing, eyesight and speech, should be met by the candidate before training is commenced.

16 The training should be relevant to the provisions of the 1995 STCW-F Convention, the Radio Regulations and the 2012 Cape Town Agreement, with particular attention given to the provisions of chapter IX therein. In developing training requirements, account should be taken of at least the knowledge and training given in paragraphs 17 to 28 below.

Theory

17 Knowledge of the general principles and basic factors necessary for safe and efficient use of all subsystems and equipment required in the GMDSS, sufficient to support the practical training provisions given in paragraph 27 below.

18 Knowledge of the use, operation and service areas of GMDSS subsystems, including satellite system characteristics, navigational and meteorological warning systems and selection of appropriate communication circuits.

19 Knowledge of the principles of electricity and the theory of radio and electronics sufficient to meet the provisions given in paragraphs 20 to 24 below.

20 General theoretical knowledge of GMDSS radiocommunication equipment, including narrow-band direct-printing telegraphy and radio-telephone transmitters and receivers, digital selective calling equipment, ship earth stations, emergency position-indicating radio beacons (EPIRBs), marine antenna systems, radio equipment for survival craft together with all auxiliary items, including power supplies, as well as general knowledge of other equipment generally used for radionavigation, with particular reference to maintaining the equipment in service.

21 General knowledge of factors that affect system reliability, availability, maintenance procedures and proper use of test equipment.

22 General knowledge of microprocessors and fault diagnosis in systems using microprocessors.

23 General knowledge of control systems in the GMDSS radio equipment, including testing and analysis.

24 Knowledge of the use of computer software for the GMDSS radio equipment and methods for correcting faults caused by loss of software control of the equipment.

Regulations and documentation

25 Knowledge of:

.1 the 2012 Cape Town Agreement and the Radio Regulations, with particular emphasis on:

.1 distress, urgency and safety radiocommunications;

.2 avoiding harmful interference, particularly with distress and safety traffic; and

.3 the prevention of unauthorized transmissions;

.2 other documents relating to operational and communication procedures for distress, urgency, safety and general radiocommunications, including charges, navigational warnings, and weather broadcasts in the Maritime Mobile Service and the Maritime Mobile Satellite Service; and

.3 the use of the International Code of Signals and the IMO Standard Marine Communication Phrases.

Watchkeeping and procedures

26 Training should be given in:

.1 communication procedures and discipline to prevent harmful interference in GMDSS subsystems;

.2 procedures for using propagation-prediction information to establish optimum frequencies for communications;

.3 radiocommunication watchkeeping relevant to all GMDSS subsystems, exchange of radiocommunication traffic, particularly concerning distress, urgency and safety procedures, and radio records;

.4 use of the international phonetic alphabet;

.5 monitoring a distress frequency while simultaneously monitoring or working on at least one other frequency;

.6 ship reporting systems and procedures;

.7 radiocommunication procedures of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual;

.8 radio medical systems and procedures; and

.9 causes of false distress alerts and means to avoid them.

Practical

27 Practical training, supported by appropriate laboratory work, should be given in:

.1 correct and efficient operation of all GMDSS subsystems and equipment under normal propagation conditions and under typical interference conditions;

.2 safe operation of all the GMDSS communication equipment and ancillary devices, including safety precautions;

.3 adequate and accurate keyboard skills for the satisfactory exchange of communications;

.4 operational techniques for:

.1 receiver and transmitter adjustment for the appropriate mode of operation, including digital selective calling and direct-printing telegraphy;

.2 antenna adjustment and realignment, as appropriate;

.3 use of radio life-saving appliances; and

.4 use of emergency position-indicating radio beacons (EPIRBs);

.5 antenna rigging, repair and maintenance, as appropriate;

.6 reading and understanding pictorial, logic and module interconnection diagrams;

.7 use and care of those tools and test instruments necessary to carry out at-sea electronic maintenance at the level of replacement of a unit or module;

.8 basic manual soldering and desoldering techniques and their limitations;

.9 tracing and repair of faults to board/module level;

.10 recognition and correction of conditions contributing to the fault occurring;

.11 basic maintenance procedures, both preventive and corrective, for all the GMDSS communication equipment and radionavigation equipment; and

.12 methods of alleviating electrical and electromagnetic interference, such as bonding, shielding and bypassing.

Miscellaneous

28 Knowledge of, and/or training in:

.1 the English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea;

.2 world geography, especially the principal shipping routes, services of rescue coordination centres (RCCs) and related communication routes;

.3 survival at sea, the operation of lifeboats, rescue boats, liferafts, buoyant apparatus and their equipment, with special reference to radio life-saving appliances;

.4 fire prevention and fire fighting, with particular reference to the radio installation;

.5 preventive measures for the safety of vessel and personnel in connection with hazards related to radio equipment, including electrical, radiation, chemical and mechanical hazards;

.6 first aid, including heart-respiration revival techniques; and

.7 Coordinated Universal Time (UTC), global time zones and the international date line.

Training related to the General Operator's Certificate

General

29 The requirements of medical fitness, especially as to hearing, eyesight and speech, should be met by the candidate before training is commenced.

30 The training should be relevant to the provisions of the 1995 STCW-F Convention, the Radio Regulations and the 2012 Cape Town Agreement, with particular attention given to the provisions of chapter IX therein. In developing training requirements, account should be taken of at least the knowledge and training given in paragraphs 31 to 36 below.

Theory

31 Knowledge of the general principles and basic factors necessary for safe and efficient use of all subsystems and equipment required in the GMDSS sufficient to support the practical training provisions given in paragraph 35 below.

32 Knowledge of the use, operation and service areas of GMDSS subsystems, including satellite system characteristics, navigational and meteorological warning systems and selection of appropriate communication circuits.

Regulations and documentation

33 Knowledge of:

.1 the 2012 Cape Town Agreement and the Radio Regulations, with particular emphasis on:

.1 distress, urgency and safety radiocommunications;

.2 avoiding harmful interference, particularly with distress and safety traffic; and

.3 prevention of unauthorized transmissions;

.2 other documents relating to operational and communication procedures for distress, urgency, safety and general radiocommunications, including charges, navigational warnings, and weather broadcasts in the Maritime Mobile Service and the Maritime Mobile Satellite Service; and

.3 use of the International Code of Signals and the IMO Standard Marine Communication Phrases.

Watchkeeping and procedures

34 Training should be given in:

.1 communication procedures and discipline to prevent harmful interference in GMDSS subsystems;

.2 procedures for using propagation-prediction information to establish optimum frequencies for communications;

.3 radiocommunication watchkeeping relevant to all GMDSS subsystems, exchange of radiocommunication traffic, particularly concerning distress, urgency and safety procedures, and radio records;

.4 use of the international phonetic alphabet;

.5 monitoring a distress frequency while simultaneously monitoring or working on at least one other frequency;

.6 ship reporting systems and procedures;

.7 radiocommunication procedures of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual;

.8 radio medical systems and procedures; and

.9 causes of false distress alerts and means to avoid them.

Practical

35 Practical training should be given in:

.1 correct and efficient operation of all GMDSS subsystems and equipment under normal propagation conditions and under typical interference conditions;

.2 safe operation of all the GMDSS communications equipment and ancillary devices, including safety precautions;

.3 accurate and adequate keyboard skills for the satisfactory exchange of communications; and

.4 operational techniques for:

.1 receiver and transmitter adjustment for the appropriate mode of operation, including digital selective calling and direct-printing telegraphy;

.2 antenna adjustment and realignment as appropriate;

.3 use of radio life-saving appliances; and

.4 use of emergency position-indicating radio beacons (EPIRBs).

Miscellaneous

36 Knowledge of, and/or training in:

.1 the English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea;

.2 world geography, especially the principal shipping routes, services of rescue coordination centres (RCCs) and related communication routes;

.3 survival at sea, the operation of lifeboats, rescue boats, liferafts, buoyant apparatus and their equipment, with special reference to radio life-saving appliances;

.4 fire prevention and fire fighting, with particular reference to the radio installation;

.5 preventive measures for the safety of vessel and personnel in connection with hazards related to radio equipment, including electrical, radiation, chemical and mechanical hazards;

.6 first aid, including heart-respiration revival techniques; and

.7 Coordinated Universal Time (UTC), global time zones and the international date line.

Training related to the Restricted Operator's Certificate

General

37 The requirements of medical fitness, especially as to hearing, eyesight and speech, should be met by the candidate before training is commenced.

38 The training should be relevant to the provisions of the 1995 STCW-F Convention, the Radio Regulations and the 2012 Cape Town Agreement, with particular attention given to the provisions of chapter IX therein. In developing training guidance, account should be taken of at least the knowledge and training given in paragraphs 39 to 44 below.

Theory

39 Knowledge of the general principles and basic factors, including VHF range limitation and antenna height effect necessary for safe and efficient use of all subsystems and equipment required in GMDSS sea area A1, sufficient to support the training given in paragraph 43 below.

40 Knowledge of the use, operation and service areas of GMDSS sea area A1 subsystems, e.g. navigational and meteorological warning systems and the appropriate communication circuits.

Regulations and documentation

41 Knowledge of:

.1 those parts of the 2012 Cape Town Agreement and the Radio Regulations relevant to sea area A1, with particular emphasis on:

.1 distress, urgency and safety radiocommunications;

.2 avoiding harmful interference, particularly with distress and safety traffic; and

.3 prevention of unauthorized transmissions;

.2 other documents relating to operational and communication procedures for distress, urgency, safety and general radiocommunications, including charges, navigational warnings and weather broadcasts in the Maritime Mobile Service in sea area A1; and

.3 use of the International Code of Signals and the IMO Standard Marine Communication Phrases.

Watchkeeping and procedures

42 Training should be given in:

.1 communication procedures and discipline to prevent harmful interference in GMDSS subsystems used in sea area A1;

.2 VHF communication procedures for:

.1 radiocommunication watchkeeping, exchange of radiocommunication traffic, particularly concerning distress, urgency and safety procedures, and radio records;

.2 monitoring a distress frequency while simultaneously monitoring or working on at least one other frequency; and

.3 the digital selective calling system;

.3 use of the international phonetic alphabet;

.4 ship reporting systems and procedures;

.5 VHF radiocommunication procedures of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual;

.6 radio medical systems and procedures; and

.7 causes of false distress alerts and means to avoid them.

Practical

43 Practical training should be given in:

.1 correct and efficient operation of the GMDSS subsystems and equipment prescribed for vessels operating in sea area A1 under normal propagation conditions and under typical interference conditions;

.2 safe operation of relevant GMDSS communication equipment and ancillary devices, including safety precautions; and

.3 operational techniques for use of:

.1 VHF, including channel, squelch, and mode adjustment, as appropriate;

.2 radio life-saving appliances;

.3 emergency position-indicating radio beacons (EPIRBs); and

.4 receivers capable of receiving maritime safety information and search and rescue related information (e.g. NAVTEX).

Miscellaneous

44 Knowledge of, and/or training in:

.1 the English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea;

.2 services of rescue coordination centres (RCCs) and related communication routes;

.3 survival at sea, the operation of lifeboats, rescue boats, liferafts, buoyant apparatus and their equipment, with special reference to radio life-saving appliances;

.4 fire prevention and fire fighting, with particular reference to the radio installation;

.5 preventive measures for the safety of vessel and personnel in connection with hazards related to radio equipment, including electrical, radiation, chemical and mechanical hazards; and

.6 first aid, including heart-respiration revival techniques.

Training related to maintenance of GMDSS installations on board vessels

General

45 The person designated to perform functions for at-sea electronic maintenance should either hold an appropriate certificate as specified by the Radio Regulations, as required, or have equivalent at-sea electronic maintenance qualifications, as may be approved by the Administration, taking into account the recommendations of the Organization on the training of such personnel.

46 The following guidance on equivalent electronic maintenance qualifications is provided for use by Administrations as appropriate.

47 Training as recommended below does not qualify any person to be an operator of GMDSS radio equipment who does not hold an appropriate Radio Operator's Certificate.

Maintenance training equivalent to the First-Class Radioelectronic Certificate

48 In determining training equivalent to the elements of the listed First-Class Radioelectronic Certificate:

.1 the theory content should cover at least the subjects given in paragraphs 3 to 10;

.2 the practical content should cover at least the subjects given in paragraph 13; and

.3 the miscellaneous knowledge included should cover at least the subjects given in paragraph 14.

Maintenance training equivalent to the Second-Class Radioelectronic Certificate

49 In determining training equivalent to the maintenance elements of the Second-Class Radioelectronic Certificate:

.1 the theory content should cover at least the subjects given in paragraphs 17 to 24;

.2 the practical content should cover at least the subjects given in paragraph 27; and

.3 the miscellaneous knowledge included should cover at least the subjects given in paragraph 28.

Section B-II/7

(No provisions)

Section B-II/8

(No provisions)

Section B-II/a
Guidance on training of deckhand fishing working on fishing vessels of 24 metres in length and over

Definition

1 *Deckhand fishing* means a member of the vessel's crew other than the skipper or an officer.

Safety familiarization for deckhand fishing

2 Before being assigned to shipboard duties, deckhand fishing should be familiar with the following:

.1 marine terms and orders commonly used in fishing vessels;

.2 the dangers associated with fishing operations such as shooting the fishing gear into the water, hauling the fishing gear and landing the catch on board; and

.3 construction, application and purpose of each piece of deck equipment associated with a particular type of fishing gear, including, but not limited to:

.1 trawl gallows;

.2 gantries;

.3 bollards;

.4 power blocks;

.5 pursing blocks;

.6 winches and booms;

.7 derricks;

.8 net drums and side rollers; and

.9 line and trap haulers; and

.4 the dangers associated with the movement of equipment not fixed.

Training for deckhand fishing

3 Deckhand fishing should, before being assigned to any shipboard duties, receive appropriate training cover competences given below.

COMPETENCES

Contribute to safe operation

4 Understanding of dangers caused by the vessel's motions and accelerations.

5 Understanding of dangers caused by slippery surfaces on board.

6 Understanding of good onboard conduct, particularly to minimize fire hazards.

7 Knowledge of the use of personal protection equipment.

Contribute to maintain stability and seaworthiness

8 Understanding of the watertight and weathertight integrity of common types of fishing vessels.

9 Understanding of the operation of closing devices for doors and other openings relevant to the watertight and weathertight integrity of the fishing vessel.

10 Knowledge of stowage of the catch, fishing gear.

11 Knowledge of the function of freeing ports.

Contribute to berthing, anchoring, catch handling and other mooring operations

12 Knowledge of the handling and maintenance of deck appliances and equipment such as winches, derricks, booms, stoppers, chains, wire rope and ropes.

13 Knowledge and safe working practice of making splices and eye splices in wire ropes and ropes.

14 General knowledge of mooring operations and the handling and safe working practice of mooring ropes, including springs, bow, stern and breast ropes.

15 Knowledge of helm orders, commands for mooring, anchoring and towing.

16 Knowledge of possible hazards and risks on mooring, anchoring and towing.

Section B-II/b
Guidance on training of advanced deckhand fishing working on fishing vessels of 24 metres in length and over

Definition

1 *Advanced deckhand fishing* means a qualified deckhand participating in the safe operation of the fishing vessel, preparation for and carrying out fishing operations, handling, safe stowage and, where appropriate, processing the catch and repairing the fishing gear.

Training for advanced deckhand fishing

2 Advanced deckhand fishing should, before being assigned to any shipboard duties, receive appropriate training cover competences given below.

COMPETENCES

Function: Navigation at the support level

Contribute to enhance communication for safety navigation

3 Knowledge of common nautical terms which apply to the work and navigation of a fishing vessel.

Contribute to hazard identification

4 Working knowledge of margins of safety and prepare the fishing vessel to go to sea, including:

.1 the procedure for keeping a proper lookout in order to maintain a margin of safety between own vessel and other traffic;

.2 the safe distances between boats and land; and

.3 the risk of collision.

Contribute to safe navigation using guidance equipment

5 Knowledge about the principles of a visual lookout.

6 Knowledge of GPS operations that describe the dangers of operating GPS equipment without proper training.

Contribute to safe anchor operation

7 Knowledge of anchors, including weighing and dragging.

8 Knowledge of common nautical terms which apply to anchoring.

Contribute to safe mooring operation

9 Knowledge of mooring operation and equipment including mooring ropes.

Contribute to safe towing operation

10 Knowledge of towing operation.

Contribute to safe navigational watch

11 Ability to steer the fishing vessel on a compass course and maintain a course satisfactory.

12 Understanding the method of handing over the wheel and lookout duty when vessel is under way in order to ensure its continuity.

13 Knowledge of watchkeeping, including:

.1 engine checks;

.2 safe watchkeeping practices; and

.3 International Collision Prevention Regulations.

14 Knowledge of use of magnetic and gyro-compass.

Function: Catch handling and stowage at the support level

Contribute to safe catch handling and stowage

15 Knowledge of the effects upon a fishing vessel of catch handling and stowage factors.

16 Knowledge of the related principles and guidelines for responsible fisheries.

17 Understanding of responsible harvesting, including:

.1 effects of discards and by-catch;

.2 causes of habitat damage through fishing operations; and

.3 proper disposal of unserviceable fishing gear.

18 Understanding of responsible fishing gear selectivity including its importance and factors that affects size and species selectivity.

19 Knowledge of the relevant national Administrations and their fisheries responsibilities.

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

Apply occupational health and safety precautions

20 Understanding parts of the fishing vessel, including:

.1 functions of fishing vessel equipment and gear;

.2 main components of fishing gear including trawl net, purse seine net, set net, cast net, long line, dredge and fish pot; and

.3 fish aggregating devices (FADs) and main types of fishing gear, including: surrounding nets (e.g. purse seine nets), seine nets, trawls, dredges, lift nets, falling gear (e.g. cast nets), gillnets and entangling nets, traps (e.g. pots), hooks and lines (e.g. longlines).

Ability to make and use knots and splices

21 Ability to tie and use various types of knots.

22 Ability to make splices and whipping.

23 Ability to apply rope and chain stoppers depending on the situation.

Ability to use purchases

24 Ability to use various types of purchases for rigging.

25 Understanding of the purpose of tackles.

Function: Maintenance and repair at the support level

Contribute to safe operation and maintenance of the deck equipment

26 Knowledge and understanding of the construction, application and purpose of deck equipment on fishing vessels.

27 Understanding of the procedures for safe operation and maintenance of deck equipment.

28 Knowledge of fibre ropes, wire ropes and chains for use and maintenance, including precautions to take.

29 Understanding watertight and weathertight integrity of common types of fishing vessels.

Chapter III
Guidance regarding basic training for all fishing vessel personnel

Section B-III/1
Guidance regarding basic training and onboard safety familiarization for all fishing vessel personnel

Personal survival techniques

1 The training in personal survival techniques required by section A-III/1 should include the following theoretical and practical knowledge:

.1 actions to be taken at rescue operations by a helicopter; and

.2 getting the survival craft quickly away of the fishing vessel and fishing gear.

Fire prevention and fire fighting

2 The training in fire prevention and fire fighting required by section A-III/1 should include the following theoretical and practical knowledge:

.1 re-entry procedure; and

.2 fire prevention measures such as:

.1 prohibition of smoking;

.2 location of heat sources to prevent contact with combustible materials;

.3 control of use of blowlamps, cutting or welding equipment;

.4 risk assessment and purchase control of articles and substances in order to avoid the introduction of fire hazards, where possible;

.5 risk assessment and control of the use of articles and substances that pose fire hazards in order to avoid the introduction of fire risks;

.6 adequate cleanliness of working areas; and

.7 adequate supervision of cooking facilities.

Elementary first aid

3 The training in elementary first aid required by section A-III/1 should include the following theoretical and practical knowledge:

.1 use of telemedical assistance service; and

.2 means to obtain medical advice by radio.

Personal safety and social responsibilities

4 The training in personal safety and social responsibilities required by section A-III/1 should include the following theoretical and practical knowledge:

.1 consequences of panic;

.2 immediate and correct action to assist a craft in distress;

.3 risk assessment by:

.1 identification of hazards;

.2 identification of associated risk for health and safety;

.3 decision on appropriate control measures;

.4 prediction of potential outcomes; and

.5 determination of level of risk;

.4 risk mitigation methods, including:

.1 elimination;

.2 guarding of hazards and persons;

.3 procedure and training;

.4 personal protective equipment (PPE);

.5 signage; and

.6 maintenance;

.5 near misses, incidents and accidents, including:

.1 identification of root causes;

.2 recognition of contributing factors;

.3 evaluation of relevant outcomes;

.4 determination of the difference between a near miss, an incident and an accident;

.5 prevention of further development of near misses, incidents and accidents including the safe isolation of equipment, machinery and systems and the future occurrence of near misses, incidents and accidents; and

.6 reporting of a near miss, incident or accident according to legislative requirements, internal safety procedures and confidentiality requirements; and

.6 communication phrases and handling of signals during fishing operations such as:

.1 shooting and hauling of the fishing gear;

.2 transferring the catch;

.3 working with deck and fishing gear; and

.4 lifting.

5 The training in personal safety and social responsibilities required by section A-III/1 should include awareness training in the following elements:

.1 methods for safety management appropriate to fishing vessels, including:

.1 policy statement;

.2 crew introduction;

.3 onboard training;

.4 working procedures;

.5 maintenance schedules;

.6 fishing vessel design;

.7 checklists;

.8 health surveillance; and

.9 agreed common language;

.2 participation in continued monitoring of improvement of safety by:

.1 understanding the reasons for revising existing safety methods including preventive and corrective actions;

.2 understanding of guidance to support revision processes including existing methods, legislation, and accident, incident and near miss reports;

.3 evaluating at least the following options necessary for the successful implementation of changes:

.1 feasibility of proposed changes;

.2 effectiveness of the implementation of changes; and

.3 current behaviour/culture on board;

.3 recognition of a near miss, an incident and an accident;

.4 risks on board fishing vessels during fishing operations such as:

.1 shooting and hauling of the fishing gear; and

.2 transferring the catch;

.5 risks on board fishing vessels with regard to:

.1 falls;

.2 crushing;

.3 fluctuation and loose load; and

.4 cable breaks; and

.6 risks, hazards and safe working procedures for operational safety during:

.1 mooring;

.2 unmooring;

.3 working at height;

.4 hot work; and

.5 working with hazardous substances.

Section B-III/a
Guidance on basic sustainable fisheries training for all fishing vessel personnel

1 Fishing vessel personnel should, before being assigned to any shipboard duties, receive appropriate approved basic sustainable fisheries training in:

.1 sustainable fisheries;

.2 prevention of pollution of the marine environment; and

.3 efficient use of energy and reduction of air pollution.

Above trainings should cover competences given below.

COMPETENCES

Define sustainable fisheries

2 Understand that sustainable development requires a balance of social responsibility (People), care for the environment (Planet) and economic prosperity (Profit).

3 Be able to apply the principles of sustainable development to the fishing industry.

Recognize the ocean as a diverse and valuable environment

4 Understand the importance of healthy oceans for the fishing industry.

Prevent plastic pollution to the (marine) environment

5 Be able to properly handle garbage, as defined in MARPOL Annex V, on board vessel and the correct disposal in ports.

Contribute to the efficient use of energy and reduction of air pollution

6 Have knowledge of the impacts of air pollution on the environment.

7 Understand the urgency of climate change and the way the maritime sector contributes to the problem.

8 Be able to contribute to the efficient use of energy and the reduction of air pollution.

Ensure a positive reputation of the fishing industry

9 Understand the importance of interaction with society, transparency and accountability to ensure a good reputation and a "licence to operate".

Chapter IV
Guidance regarding watchkeeping

Section B-IV/1

(No provisions)

Section B-IV/2

(No provisions)