

No. S 54

**MERCHANT SHIPPING ORDER, 2002
(S 27/02)**

**MERCHANT SHIPPING (STANDARDS OF TRAINING,
CERTIFICATION AND WATCHKEEPING) REGULATIONS, 2002**

ARRANGEMENT OF REGULATIONS

Regulation

PART I

PRELIMINARY

1. Citation and commencement.
2. Interpretation.
3. Application.
4. Non-application.
5. Exemption.

PART II

GENERAL PROVISIONS

6. Training and assessment.
7. Quality standards.
8. Standards of medical fitness.
9. Responsibilities of companies.
10. Control procedures.
11. Conduct of trials.

PART III

CERTIFICATION OF OFFICERS

12. Qualified officers.
13. Classes of deck officer certificates.
14. Classes of marine engineer officer certificates.
15. Classes of rating certificates.
16. Contents of certificate and endorsement.
17. Revalidation of certificates.
18. Certificate of endorsement.
19. Standards and conditions for issue, endorsement and revalidation of certificates.
20. Application for replacement of lost or damaged certificate.
21. Cancellation and suspension of certificate due to non-compliance.
22. Cancellation and suspension of certificate of seafarer with disease or disability.

PART IV

RADIO COMMUNICATION AND RADIO PERSONNEL

23. Qualified radio personnel.

PART V

RATINGS

24. Qualified ratings.

PART VI

MANNING

- 25. Safe Manning Certificate.
- 26. Application for Safe Manning Certificate.
- 27. Application for reduction in manning.

PART VII

WATCHKEEPING

- 28. Watchkeeping regulations.
- 29. Fitness for duty.
- 30. Watchkeeping arrangements and principles to be observed.

PART VIII

EXAMINATION AND ASSESSMENT

- 31. Examination Centre.
- 32. Appointment of examiners.
- 33. Maintenance of records.
- 34. Action against candidates found guilty of misconduct.
- 35. Appeal.
- 36. Review of results of examination.

PART IX

MISCELLANEOUS

- 37. Fees.
- 38. Prescription of forms and certificates.

39. Savings.

40. Revocation.

ANNEX	–	MINIMUM MANNING SCALES
FIRST SCHEDULE	–	MEDICAL EXAMINATION RULES
SECOND SCHEDULE	–	EXAMINATION AND CERTIFICATION RULES
THIRD SCHEDULE	–	TRAINING AND ASSESSMENT RULES
FOURTH SCHEDULE	–	STANDARDS REGARDING WATCHKEEPING
FIFTH SCHEDULE	–	FEEES
SIXTH SCHEDULE	–	FORMS AND CERTIFICATES

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In exercise of the power conferred by section 47 of the Merchant Shipping Order, 2002, the Minister of Communications, with the approval of His Majesty the Sultan and Yang Di-Pertuan, hereby makes the following Regulations —

PART I

PRELIMINARY

Citation and commencement.

1. These Regulations may be cited as the Merchant Shipping (Standards of Training, Certification and Watchkeeping) Regulations, 2002 and shall commence on the 1st. August, 2002.

Interpretation.

2. In these Regulations, unless the context otherwise requires —

"appropriate certificate" means a certificate issued and endorsed in accordance with these Regulations and entitling the lawful holder thereof to serve in the capacity and perform the functions involved at the level of responsibility specified therein on a ship of the type, tonnage or power and means of propulsion indicated by the endorsement while engaged on the particular voyage concerned;

"approved" means approved by the Director;

"certificate of competency" means a certificate issued by the Director to a candidate who, to the satisfaction of the Director, meets the requirements for service, age, medical fitness, training, qualification and examinations in accordance with the appropriate provisions of the STCW Code;

"certificate of proficiency" means an appropriate certificate issued by an approved training institute conducting courses, in accordance with Chapters V and VI of the STCW Code;

"chief engineer officer" means the senior engineer officer responsible for the mechanical propulsion and the operation and maintenance of the mechanical and electrical installations of the ship;

"chief mate" means the officer next in rank to the master and upon whom the command of the ship will fall in the event of the incapacity of the master;

"company" means the owner of the ship or any other organisation or person such as the manager, or the bareboat charterer, who has assumed the responsibility for operation of the ship from the shipowner and who, on assuming such responsibility, has agreed to take over all the duties and responsibilities imposed on the company by the Convention;

"Convention" means the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended;

"Examination Centre" means a centre designated by the Director responsible for examination and assessment of candidates and maintaining records;

"examiner" means a person appointed by the Director to be an examiner of masters, officers and ratings;

"foreign-going ship" means every ship employed in trading or going between some place or places in Brunei Darussalam and some place or places situated beyond the limits prescribed for near-coastal voyages;

"function" means a group of tasks, duties and responsibilities, as specified in the STCW Code, necessary for ship operation, safety of life at sea or protection of the marine environment;

"IMO" means the International Maritime Organisation;

"liquid chemicals" means any liquid chemical listed in the International Maritime Organisation's "International Code for the Construction and Equipment of Ships Carrying Dangerous Chemical in Bulk (IBC Code)", together with any supplements thereto and any amendments which may be made and includes any residues or mixtures containing liquid chemical;

"liquefied gas" means liquefied petroleum gas (LPG) and liquefied natural gas (LNG) and any of the gases listed in the International Maritime Organisation's "International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code)", together with any supplements thereto and any amendments which may be made and includes any residues or mixtures containing liquefied gas;

"medical examiner", for the purpose of medical examination, means a registered medical practitioner employed by the Government and if no such examiner is available then any other duly registered medical practitioner;

"month" means a calendar month, and the time between any given day in any month and the preceding day of the following month (both days inclusive) shall be considered as one month;

"near-coastal voyages" means the voyages to any port or place in the area within the following limits —

an imaginary line drawn from a position in the Gulf of Martaban in latitude 16° 15' north, longitude 96° 00' east in a south-easterly direction to a position in latitude 15° 00' north, longitude 97° 00' east, thence due south to a position in latitude 09° 00' north, longitude 97° 00' east, thence in a south-westerly direction to a position in latitude 6° 00' north, longitude 94° 00' east, thence due south to a position in latitude 4° 00' north, longitude 94° 00' east, thence in a south-easterly direction to a position in latitude 8° 00' south, longitude 104° 00' east, thence in an easterly direction to a position in latitude 10° 00' south, longitude 120° 00' east, thence due east to a position in latitude 10° 00' south, longitude 125° 00' east, thence due north to a position in latitude 8° 00' north, longitude 125° 00' east, thence due west to a position in latitude 8° 00' north, longitude 110° 00' east, thence in a 315° direction (N.W. true) to the coast of Vietnam, thence initially westward following the coasts of Vietnam, Cambodia, Thailand, the Malay Peninsular and Myanmar to the starting point, including proximity of safe havens on such voyages;

"officer in charge of an engineering watch" means an engineer officer qualified in accordance with regulation III/1 of the Convention;

"officer in charge of a navigational watch" means a deck officer qualified in accordance with regulation II/1 of the Convention;

"petroleum products" means fuel oil, lubricants, bitumen, wax, industrial spirits, and refined products and any substance having a final boiling point at normal atmospheric pressure of more than 50 degrees Celsius higher than its initial boiling point, produced directly or indirectly from crude petroleum, except liquefied gas and includes any residues or mixtures containing petroleum products;

"power", in relation to a ship, means the brake or shaft power as shown in the ship's register, that is to say, the total continuous rated brake or shaft power of all the propulsion engines, irrespective of whether some of the power may be diverted from the propulsion shafts or whether all the power is normally used;

"qualified officer" means a deck or marine engineer officer who is qualified in accordance with regulation 12;

"rating" means a member of the ship's crew other than the master or a deck officer or a marine engineer officer, as described in regulation 24;

"relevant", in relation to a certificate of competency, means the certificate is, at the material time, valid and in force in relation to the person named in it and is of a class appropriate to the capacity in which the holder is to be employed on a ship;

"ro-ro passenger ship" means a passenger ship with ro-ro cargo spaces or special category spaces as defined in the SOLAS Convention;

"Safe Manning Certificate" means a document issued by the Director specifying the minimum safe manning required for a ship in compliance with IMO Resolution A.481(XII) and any amendment thereto which may come into force, as described in regulation 25;

"seagoing service" means service on board a ship relevant to the issue of a certificate or other qualification;

"second engineer officer" means the engineer officer next in rank to the chief engineer officer and upon whom the responsibility for the mechanical propulsion and the operation and maintenance of the mechanical and electrical installations of the ship will fall in the event of the incapacity of the chief engineer officer;

"SOLAS Convention" means the International Convention for the Safety of Life at Sea, 1974 and any amendment made thereto which has come into force and has been accepted by the Government;

"STCW Code" means the Seafarers' Training, Certification and Watchkeeping (STCW) Code as adopted by the 1995 Conference Resolution 2, as it may be amended;

"survival craft" includes an approved lifeboat, liferaft or any other craft used for survival at sea;

"tanker" means a ship carrying liquid chemicals or liquefied gas or petroleum products;

"trial" means an experiment or series of experiments, conducted over a limited period, which may involve the use of automated or integrated systems in order to evaluate alternative methods of performing specific duties or satisfying particular arrangements prescribed by the Convention, which would provide at least the same degree of safety and pollution prevention as provided by these Regulations.

Application.

3. These Regulations, unless expressly provided otherwise, shall apply to —

- (a) any seafarer serving on board Brunei Darussalam ships, except those specified in regulation 4;
- (b) a candidate who is a citizen of Brunei Darussalam;
- (c) any other candidate, who is not a citizen of Brunei Darussalam but has been permitted by the Director to be examined, assessed and certified under these Regulations;
- (d) shipping companies;
- (e) approved maritime training institutes; and
- (f) assessors engaged in the assessment of candidates.

Non-application.

4. These Regulations shall not apply to seafarers serving on board —

- (a) ships belonging to Royal Brunei Navy, Royal Brunei Police Force and other agencies operating ships on governmental non-commercial service; however, persons serving on board such ships shall meet the requirements of these Regulations so far as is reasonable and practicable;
- (b) fishing vessels;
- (c) pleasure yachts not engaged in trade; or
- (d) wooden ships of primitive build.

Exemption.

5. Subject to Article VIII of the Convention, the Director may exempt or grant dispensation to — •

- (a) a seafarer from such requirements as he may consider necessary, if the application of full requirements of the provisions of the Convention are unreasonable or impracticable and such exemption shall be by order in writing; and

(b) a person or ship, or description of persons or ships, from all or any of the provisions of these Regulations subject to such conditions as he may impose.

PART II

GENERAL PROVISIONS

Training and assessment.

6. All training and assessment either on board or ashore shall be —

(a) administered, supervised and monitored and structured in accordance with written rules and guidelines, including such methods and media of delivery, procedure and course material as are necessary to achieve the standard of competence as specified in the Third Schedule and Chapters II to VIII of the STCW Code; and

(b) conducted, evaluated and supported by persons or institutions appropriately qualified for the type and level of training and assessment of competence in accordance with rule 2 of the Training and Assessment Rules in the Third Schedule and paragraphs 4 to 6 of section A-I/6 of the STCW Code.

Quality standards.

7. (1) All training, assessment of competence, certification of seafarers, endorsement and revalidation of certificates shall be continuously monitored by the Director through a quality standards system in accordance with section A-I/8 of the STCW Code which shall also include the qualifications and experiences of the instructors and assessors.

(2) The system shall be evaluated periodically, at intervals of not more than 5 years, by qualified persons appointed by the Director, who are not themselves involved in the activities concerned.

Standards of medical fitness.

8. Candidates for certification shall provide satisfactory proof that they meet the standards of medical fitness, particularly regarding eyesight and hearing, as set out in the Medical Examination Rules in the First Schedule and hold a valid document attesting to their medical fitness issued by an approved medical examiner.

Responsibilities of companies.

9. (1) The Director shall hold companies responsible for the assignment of seafarers for service in their ships and shall require every such company to ensure that —

(a) each seafarer assigned to any of its ships holds an appropriate certificate in accordance with these Regulations and as established by the Director;

(b) its ships are manned in compliance with the applicable safe manning requirements as provided in Part VI;

(c) documentation and data relevant to all seafarers employed on its ships are maintained and readily accessible, and include, without being limited to, documentation and data on their experience, training, medical fitness and competency in assigned duties;

(d) seafarers, on being assigned to any of its ships, are familiarised with their specific duties and with arrangements, installations, equipments, procedures and ship characteristics that are relevant to their routine or emergency duties;

(e) the ship's complement can effectively co-ordinate their activities in an emergency situation and in performing functions vital to safety or to the prevention or mitigation of pollution; and

(f) the master of the ship under whose command an individual seafarer sails on a particular ship shall be responsible to the company in respect of his duties and obligations.

(2) A company which contravenes sub-regulation (1) shall be guilty of an offence and liable on conviction to a fine not exceeding \$10,000.

Control procedures.

10. (1) The Director may authorise an officer of the Marine Department to board any ship —

(a) to verify that all seafarers serving on board who are required to be certificated in accordance with the Convention hold an appropriate certificate or a valid dispensation, or provide documentary proof that an application for an endorsement has been submitted to the foreign maritime administration in accordance with paragraph 5 of regulation I/10 of the Convention;

(b) to verify that the numbers and certificates of the seafarers serving on board are in conformity with the applicable safe manning requirements; and

(c) to assess, in accordance with section A-I/4 of the STCW Code, the ability of the seafarers of the ship to maintain watchkeeping standards as required by the Convention if there are clear grounds for believing that such standards are not being maintained because any of the following has occurred —

- (i) the ship has been involved in a collision, grounding or stranding;
- (ii) there has been a discharge of substances from the ship when under way, at anchor or at berth which is illegal under any international convention;
- (iii) the ship has been manoeuvred in an erratic or unsafe manner whereby routing measures adopted by the IMO or safe navigation practices and procedures have not been followed; or
- (iv) the ship is otherwise being operated in such a manner as to pose a danger to persons, property or the environment.

(2) Deficiencies which may be deemed to pose a danger to persons, property or the environment include the following —

(a) failure of seafarers to hold a certificate, to have an appropriate certificate, to have a valid dispensation or to provide documentary proof that an application for an endorsement has been submitted to the foreign maritime administration in accordance with paragraph 5 of regulation I/10 of the Convention;

(b) failure to comply with the applicable safe manning requirements;

(c) failure of navigational or engineering watch arrangements to conform to the requirements specified for the ship as specified in the Fourth Schedule;

(d) absence in a watch of a person qualified to operate equipment essential to safe navigation, safety radio communications or the prevention of marine pollution; and

(e) inability to provide for the first watch at the commencement of a voyage, and for subsequent relieving watches, persons who are sufficiently rested and otherwise fit for duty.

(3) Failure to correct any of the deficiencies referred to in sub-regulation (2), in so far as it has been determined by the Director that they pose a danger to persons, property or the environment, shall be the grounds, under these Regulations, on which the Director may cause a ship to be detained.

(4) Every company or person with the relevant knowledge shall report —

(a) the incompetence of officers, and any act or omission, that may pose a direct threat to safety of life or property at sea or to the marine environment by the holders of certificates or endorsements issued under the Order or these Regulations;

(b) persons who have obtained engagement by fraud or a forged document in any capacity which is to be performed by persons holding appropriate certificates.

(5) Where the report is in relation to the incompetence of a certificated person or the performance of the functions by an unauthorised person, the report and the results of the investigation shall be forwarded to the Director for necessary action as specified in these Regulations.

(6) Where the report deals with fraudulent act, the Director shall report the case to the police for action.

(7) A company which fails to report as required under sub-regulation (4) shall be guilty of an offence and liable on conviction to a fine not exceeding \$10,000.

(8) Any master who has permitted any function or service in any capacity required by these Regulations to be performed by a person holding an appropriate certificate, to be performed by a person not holding the required certificate, a valid dispensation or a documentary proof of having submitted his certificate for endorsement to the Director, shall be guilty of an offence and liable on conviction to a fine not exceeding \$10,000.

(9) Where a Party to the Convention intends to initiate any proceedings against any Brunei Darussalam registered shipping company or person for non-compliance with the Convention under its jurisdiction, the Director, after due verification of the facts, shall extend all co-operation to such Party.

(10) In every such case as mentioned in sub-regulation (9), the Party concerned shall not have the power to cancel or suspend any of the certificates issued under these Regulations. Such Party may cancel or suspend the endorsement made by them on such certificate and inform the Director of the action taken and where considered necessary, the Director may make further inquiry to determine the action to be taken.

Conduct of trials.

11. The Director may authorise Brunei Darussalam ships to participate in trials, provided that such trials are conducted in a manner that provides at least the same degree of safety and pollution prevention as provided by these Regulations and shall be conducted in accordance with guidelines adopted by the IMO. Such authorisation shall comply with the provisions of regulation I/13 of the Convention.

PART III

CERTIFICATION OF OFFICERS

Qualified officers.

12. (1) Every ship to which these Regulations apply shall carry such number of qualified officers as required under the minimum manning scales as shown in the Annex.

(2) All qualified officers are required to keep available on board the ship on which they are serving any certificate in its original form, as required by the Convention.

(3) For the purposes of these Regulations, an officer is qualified if he is the holder of a relevant certificate of competency issued under these Regulations or a certificate which is treated as equivalent to that certificate according to regulation 18.

(4) For the purposes of these Regulations, a radio officer is qualified if he is certified in accordance with the SOLAS Convention and the Constitution and Convention of the International Telecommunication Union.

(5) In addition to qualifications required by sub-regulation (3), special training requirements for officers or any other persons are applicable to the following types of ships —

(a) oil tankers, chemical tankers and liquefied gas tankers;

(b) ro-ro passenger ships;

(c) passenger ships other than ro-ro passenger ships,

and the minimum requirements for training and qualification are as specified in rule 6 of the Examination and Certification Rules in the Second Schedule.

(6) Masters and officers qualified under paragraph (a) of sub-regulation (5) shall present their certificate of competency to the examiner, and obtain an endorsement, upon payment of the prescribed fee, for service on oil tanker, chemical tanker or liquefied gas tanker, as appropriate.

Classes of deck officer certificates.

13. (1) A certificate of competency for deck officers may be issued for the following grades —

(a) officer in charge of a navigational watch on ships of 500 tons or more;

(b) chief mate on ships of 500 tons or more;

(c) master on ships of 500 tons or more;

(d) chief mate on ships of between 500 and 3,000 tons operating in near-coastal voyages;

(e) master on ships of between 500 and 3,000 tons operating in near-coastal voyages;

(f) officer in charge of a navigational watch on ships of less than 500 tons operating in near-coastal voyages;

(g) master on ships of 500 tons or less operating in near-coastal voyages.

(2) The minimum requirements for certification of such deck officers referred to in sub-regulation (1) are as specified in Part II of the Examination and Certification Rules in the Second Schedule.

Classes of marine engineer officer certificates.

14. (1) A certificate of competency for marine engineer officers may be issued for the following grades —

(a) officer in charge of an engineering watch serving on a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more;

(b) second engineer officer on ships powered by main propulsion machinery of 3,000 kW propulsion power or more;

(c) chief engineer officer on ships powered by main propulsion machinery of 3,000 kW propulsion power or more;

(d) second engineer officer on ships of between 750 kW and 3,000 kW propulsion power operating in near-coastal voyages;

(e) chief engineer officer on ships of between 750 kW and 3,000 kW propulsion power operating in near-coastal voyages.

(2) The minimum requirements for certification of such marine engineer officers referred to in sub-regulation (1) are as specified in Part III of the Examination and Certification Rules in the Second Schedule.

Classes of rating certificates.

15. (1) A certificate for ratings may be issued for the following grades —

(a) ratings forming part of a navigational watch;

(b) ratings forming part of an engine room watch.

(2) The minimum requirements for certification of such ratings referred to in sub-regulation (1) are specified in Part IV of the Examination and Certification Rules in the Second Schedule.

Contents of certificate and endorsement.

16. Certificates of competency issued under these Regulations shall be in the form specified in the Sixth Schedule and shall —

(a) be endorsed as required by Article VI of the Convention; and

(b) contain the information set out in paragraphs 1 and 2 of section A-I/2 of the STCW Code.

Revalidation of certificates.

17. (1) Every holder of a certificate of competency who is serving at sea, or intends to return to sea after a period ashore shall, in order to re-qualify or continue to qualify for sea service in the capacity appropriate to his certificate, at regular intervals to be determined by the Director but not exceeding 5 years, satisfy the Director as to his medical fitness (including eyesight and hearing), and professional competence, as may be specified by the Director.

(2) Such candidate shall –

(a) meet the standards of medical fitness as prescribed in the First Schedule;

(b) complete an approved refresher and updating course in accordance with section A-I/11 of the STCW Code;

(c) be subject to scrutiny and assessment by the Examination Centre; and

(d) be issued with a certificate regarding complying with the requirements of the Convention whereupon the earlier certificate shall be withdrawn.

(3) Where the Director is of the opinion that the holder of the certificate of competency is not a fit and proper person, the Director may refuse to revalidate the certificate of competency.

(4) A certificate that is not revalidated ceases to be valid for manning purposes in the rank appropriate to the certificate under these Regulations.

(5) To qualify for sea service for the purposes of revalidation, a holder of a certificate referred to in sub-regulation (4) is allowed to sail at any rank lower than that appropriate to his certificate.

Certificate of endorsement.

18. (1) The Director may, in his discretion, and upon such conditions as he may determine, recognise any valid certificate of competency issued by a foreign maritime administration by issuing a certificate of endorsement attesting the recognition of the certificate in accordance with regulation I/10 of the Convention.

(2) The certificate of endorsement is to contain the information set out in regulation I/2 of the Convention.

(3) The recognition of any certificate of competency issued by any foreign maritime administration is subject to the following conditions –

(a) that a valid undertaking exists between the Director and the foreign maritime administration;

(b) that prompt notification shall be given by the foreign maritime administration to the Director of any significant change in the arrangements for training and certification provided in compliance with the Convention;

(c) that the Director is satisfied that the certificate of competency is of a grade appropriate to the capacity in which the holder of the certificate is to be employed on a Brunei Darussalam ship or is of a higher grade;

(d) that the Director is satisfied that the holder of the certificate of competency is a fit and proper person to be employed on a Brunei Darussalam ship;

(e) that, if the seafarer is of the management level, he shall have appropriate knowledge of the maritime legislation of the administration relevant to the functions he is permitted to perform; and

(f) that the requirements of the Convention concerning standards of competence, the issue and endorsement of certificates and record keeping are fully complied with.

(4) On receipt of the application for a certificate of endorsement, a Certificate of Receipt of Application shall be issued to the seafarer. The Certificate of Receipt of Application is valid for 3 months from the date of receipt of the application, by which time the Marine Department shall ensure that, if approved, the certificate of endorsement shall be issued within 90 days of receipt of the application.

(5) Where the Director is of the opinion that a person whose certificate of competency is recognised under this regulation is not a fit and proper person to be employed on a Brunei Darussalam ship or that the person has breached any condition upon which his certificate is recognised, the Director may issue a written notice to the person informing that person of his intention to cease recognition of such certificate and giving the reasons therefor and requiring that person to show cause why his certificate shall not cease to be recognised.

(6) A person required to show cause under sub-regulation (5) may do so in writing addressed to the Director or may, at the discretion of the Director, appear before an officer appointed by the Director to investigate the matter.

(7) Where no cause or insufficient cause is shown, the Director shall issue a written notice to the person informing him that his certificate of competency shall cease to be recognised as from a specified date and giving the reasons therefor and the person shall, on being so required by the Director, forthwith deliver his certificate of recognition to the Director to cancel the endorsement attesting to the recognition of the certificate.

(8) Any person who fails to deliver his certificate to the Director when required to do so under sub-regulation (7) shall be guilty of an offence and liable on conviction to a fine not exceeding \$2,000.

(9) Any person aggrieved by any decision of the Director to cease recognition of his certificate may appeal to the Minister whose decision shall be final.

(10) An appeal lodged under sub-regulation (9) shall not operate as a stay of the decision of the Director to cease recognition of the certificate of the appellant unless the Director consents in writing.

(11) Every seafarer shall carry all appropriate certificates and endorsement certificates in their original form while serving in a relevant capacity on board the ship.

(12) Any seafarer who fails to comply with sub-regulation (11) without reasonable cause shall be guilty of an offence and liable on conviction to a fine not exceeding \$2,000.

Standards and conditions for issue, endorsement and revalidation of certificates.

19. (1) The Director may determine the requirements for —

(a) the standards of competency to be attained and the conditions to be satisfied by a person before he may be issued with an endorsed certificate of competency of a particular class under these Regulations, including any exceptions applicable with respect to any such standards or conditions;

(b) the standards of competency to be attained and the conditions to be satisfied by a person seeking endorsement to his certificate of competency to qualify him to serve on ships carrying particular cargoes or particular classes of cargo;

(c) the conditions to be complied with by a person seeking revalidation of his certificate; and

(d) the manner in which the attainment of any standards, or the compliance with any conditions referred to in this regulation, is to be satisfied.

(2) The Director may publish the requirements determined under sub-regulation (1) in the manner he thinks fit.

(3) Notwithstanding the fact that an applicant for the issue, endorsement or revalidation of a certificate of competency complies with the relevant requirements of this regulation, the Director shall not issue, endorse or revalidate the certificate applied for unless he is satisfied, having regard to all the circumstances, that the applicant is a fit and proper person to be the holder of the

certificate and that the applicant is competent to act in the capacity to which it relates.

(4) A person who is refused a certificate under sub-regulation (3) may appeal to the Minister whose decision shall be final.

(5) The Director may, in his discretion and subject to such terms as he thinks fit to impose, exempt any person from any requirement determined by him under sub-regulation (1) and may, upon giving reasonable notice to that person, at any time withdraw the exemption.

Application for replacement of lost or damaged certificate.

20. (1) A holder of any certificate issued by the Director under these Regulations may apply for a duplicate of the certificate, provided he proves to the satisfaction of the Director that he has, without fault on his part, lost or been deprived of the certificate already issued to him.

(2) Such application shall, upon payment of the prescribed fee, be made in such form and manner and accompanied by such documents, photographs and particulars as the Director may determine.

(3) Fees shall be exempted for replacement of lost or damaged certificate due to fire on board the ship or total loss of the ship.

(4) The Director shall, if he is satisfied, issue a duplicate certificate to the applicant as soon as may be practicable but not later than 6 months from the date of application.

Cancellation and suspension of certificate due to non-compliance.

21. (1) The Director may cancel or suspend any certificate issued by him under these Regulations if the holder fails to comply with any of the provisions of these Regulations and if required by the Director, the holder of the certificate shall forthwith deliver the certificate to the Director.

(2) The holder of a certificate issued by the Director under these Regulations who fails to deliver his certificate to the Director when required to do so under sub-regulation (1) shall be guilty of an offence and liable on conviction to a fine not exceeding \$2,000.

(3) On the death of the person to whom the certificate was issued, every valid certificate issued under these Regulations shall be surrendered to the Director for cancellation.

(4) If, after the death of the person to whom a certificate was issued by the Director, any person found in possession of the certificate referred to in sub-regulation (3) without valid reason for its possession, or valid reason for not surrendering it to the Director for cancellation, shall be guilty of an offence and liable on conviction to a fine not exceeding \$2,000.

(5) Where the holder of a certificate of competency of a particular class is to be issued with a certificate of a higher class, he shall surrender the first-mentioned certificate to the Director for cancellation.

Cancellation and suspension of certificate of seafarer with disease or disability.

22. (1) If the holder of a certificate under these Regulations is suffering from a disease or disability which makes him incapable of discharging his ordinary seagoing duties adequately, the Director may cancel or suspend any certificate issued by him.

(2) The Director shall not cancel or suspend any certificate until the holder of the certificate has been notified in writing to appear before the Director to show cause why his certificate should not be cancelled or suspended.

(3) Where the holder of the certificate appears to show cause under sub-regulation (2), his certificate is to be suspended until the decision of the Director is made known to him.

(4) If the holder of a certificate fails to appear before the Director as provided in sub-regulation (2), the Director shall forthwith cancel his certificate.

PART IV

RADIO COMMUNICATION AND RADIO PERSONNEL

Qualified radio personnel.

23. (1) Every person in charge of or performing designated radio duties on a ship shall be at least 18 years of age and shall be certified in accordance with the SOLAS Convention and the Constitution and Convention of the International Telecommunication Union.

(2) Every person in charge of or performing radio duties on a ship required to participate in the Global Maritime Distress and Safety System (GMDSS) shall hold an appropriate certificate and the minimum requirements for GMDSS certification shall be in accordance with section A-IV/2 of the STCW Code and as set out in rule 13 of the Training and Assessment Rules in the Third Schedule.

PART V

RATINGS

Qualified ratings.

24. (1) Every Brunei Darussalam ship shall carry such number of certificated ratings as are required for the ship under the Safe Manning Certificate issued by the Director.

(2) Every rating forming part of a navigational watch on seagoing ships of 500 tons or more, other than ratings under training and ratings whose duties while on watch are of an unskilled nature, shall be duly certificated to perform such duties.

(3) Every rating forming part of an engine room watch or designated to perform duties in a periodically unmanned engine room on seagoing ships powered by main propulsion machinery of 750 kW propulsion power or more, other than ratings under training and ratings whose duties while on watch are of an unskilled nature, shall be duly certificated to perform such duties.

(4) No person may be issued by the Director with a certificate entitling the holder to be part of a navigational or an engineering watch unless the person complies with the requirements set out in regulation II/4 or III/4 of the Convention, whichever is applicable.

(5) Every rating for certification shall, in addition to meeting the requirements of sub-regulation (4), meet the applicable requirements of Chapters V, VI and VIII of the Convention.

(6) Any certificate, required by the Convention to be held by a rating shall be kept available in its original form on board the ship on which the certificated rating is serving.

(7) The minimum requirements for certification of ratings are specified in Part IV of the Examination and Certification Rules in the Second Schedule.

PART VI

MANNING

Safe Manning Certificate.

25. (1) Every Brunei Darussalam ship shall hold a valid Safe Manning Certificate issued by the Director.

(2) A Safe Manning Certificate shall specify —

(a) the minimum number of certificated officers and ratings to be carried on board a ship;

(b) the type of voyage the ship is permitted to trade; and

(c) any limitation necessary to be imposed for such class of a ship.

(3) The Certificate shall be kept on board the ship at all times.

(4) The master and owner of a Brunei Darussalam ship shall ensure that before proceeding on a voyage, the ship has a valid Safe Manning Certificate on board and the number of certificated officers and ratings comply with the specifications of the Certificate.

(5) Any master and owner who fail to comply with sub-regulation (4) or any other requirement specified in the Certificate shall be guilty of an offence and liable on conviction to a fine not exceeding \$10,000.

Application for Safe Manning Certificate.

26. (1) A shipping company applying for a Safe Manning Certificate shall —

(a) apply the principles, recommendations and guidelines contained in Resolution A.481(XII) of the IMO, as amended;

(b) make an assessment of the total workload of the ship's complement required for its safe operation and protection of the marine environment;

(c) make an assessment of numbers and grades or capacities of the ship's complement required for its safe operation and protection of the marine environment;

(d) prepare and submit to the Director a proposal for the minimum safe manning based upon the assessment of the numbers and grades or capacities of the ship's complement required for its safe operation and protection of the marine environment;

(e) prepare and submit its proposal for a Safe Manning Certificate in the application for a Safe Manning Certificate which shall be made in such form and manner as the Director may approve and shall be accompanied by such documents, photographs and particulars as the Director may determine, based on the following functions —

(i) navigation;

- (ii) cargo handling and stowage;
- (iii) controlling the operation of the ship and care for persons on board;
- (iv) marine engineering;
- (v) electrical, electronic and control engineering;
- (vi) maintenance and repair; and
- (vii) radio communications.

(2) When issuing a Safe Manning Certificate based on the proposal prepared and submitted by a shipping company under paragraph (e) of sub-regulation (1), the Director shall be guided by IMO Resolution A.481(XII) and factors such as —

- (a) the voyage description including the trade or trades in which the ship is involved, length and nature of voyage and waters;
- (b) the number, size (kW) and main propulsion units and auxiliaries;
- (c) the size of the ship;
- (d) the construction and technical equipment of the ship;
- (e) the peak workload situations;
- (f) the capability to moor and unmoor the ship effectively and safely; and
- (g) the maintenance of safety arrangements and cleanliness of deck and engine and accommodation to minimise the risk of fire.

(3) Guidelines for the minimum number of qualified seafarers required to be carried on ships is set out in the Annex. The Director shall certify the actual minimum safe number of seafarers that may be carried on ship bearing in mind the requirements of sub-regulation (2).

Application for reduction in manning.

27. (1) A shipping company applying for a reduction in manning, within the requirements of the SOLAS Convention, shall —

(a) apply to the Director for a reduction in manning, with valid reasons thereof;

(b) provide the Director sufficient proof that the ship would be safe to proceed on a voyage, with the reduced manning; and

(c) inform the Director immediately if there is any change in circumstances, pertinent to the Safe Manning Certificate.

(2) The Director, while considering the application for reduced manning, shall —

(a) send an authorised person to survey the ship before issuing the reduction in manning;

(b) if satisfied, issue a provisional Safe Manning Certificate if the reduced manning is for a short duration or voyage; and

(c) specify the limitations and expiry date clearly on the Certificate.

(3) Guidance on the minimum number of qualified seafarers required to be carried on ships is set out in the Annex.

PART VII

WATCHKEEPING

Watchkeeping regulations.

28. Every master and owner of a ship shall comply with the requirements of Chapter VIII of the STCW Code as specified in the Fourth Schedule.

Fitness for duty.

29. A shipping company shall, for the purpose of preventing fatigue —

(a) establish and enforce rest periods for watchkeeping personnel;

(b) require that watch systems are so arranged that the efficiency of all watchkeeping personnel is not impaired by fatigue and that duties are so organised that the first watch at the commencement of a voyage and subsequent relieving watches are sufficiently rested and otherwise fit for duty; and

(c) comply with the requirements of rest periods as set out in section A-VIII/1 of the STCW Code and display watch schedules on board their ships where they are easily accessible.

Watchkeeping arrangements and principles to be observed.

30. (1) Every master, chief engineer officer and all watchkeeping personnel on board a ship shall comply with the requirements, principles and guidance set out in section A-VIII/2 of the STCW Code which shall be observed to ensure that safe continuous watches appropriate to the prevailing circumstances and conditions are maintained in all seagoing ships at all times.

(2) The master of every ship shall ensure that watchkeeping arrangements are adequate for maintaining safe watches, taking into account the prevailing circumstances and conditions and that, under the master's general direction —

(a) officers in charge of the navigational watch are responsible for navigating the ship safely during their periods of duty, when they shall be physically present on the navigating bridge or in a directly associated location such as the chartroom or bridge control room at all times;

(b) radio operators are responsible for maintaining a continuous radio watch on appropriate frequencies during their periods of duty;

(c) officers in charge of an engineering watch under the direction of the chief engineer officer shall be immediately available and on call to attend the machinery spaces and, when required, shall be physically present in the machinery space during their periods of responsibility; and

(d) an appropriate and effective watch or watches are maintained for the purpose of safety at all times, while the ship is at anchor or moored and, if the ship is carrying hazardous cargo, the organisation of such watch or watches takes full account of the nature, quantity, packing and stowage of the hazardous cargo and of any special conditions prevailing on board, afloat or ashore.

PART VIII

EXAMINATION AND ASSESSMENT

Examination Centre.

31. For the purposes of these Regulations, the headquarters of the Marine Department is designated as the Examination Centre.

Appointment of examiners.

32. (1) The Director may appoint, remove and re-appoint examiners to conduct the examinations and assessment and may regulate the conduct of all the examinations and assessment and the qualification of the candidates, and may do all such acts as he thinks expedient for the purpose of the examinations and assessment.

(2) Such examinations and assessment shall be held at such places and times as the Director may direct.

Maintenance of records.

33. (1) The Examination Centre shall maintain records of all candidates regarding —

(a) their seagoing service, progress of training ashore and on board ships, courses attended, examinations and assessment completed and certificates held;

(b) their periodical returns of progress of training ashore and on board ships and to monitor such returns; and

(c) their documentary evidence that they have fulfilled the eligibility criteria for joining an approved training and assessment programme.

(2) The Examination Centre shall maintain a register for the purposes of —

(a) recording details of certificates and endorsements issued for each grade or function to engineer officers and deck officers;

(b) recording details of certificates issued to ratings;

(c) recording status of certificates as to issue, expiry, revalidation, suspension, cancellation, reported lost or destroyed; and

(d) recording records of dispensations issued.

(3) The Examination Centre shall conduct the written, oral and practical examinations and assessment on completion of the approved training and assessment.

(4) The Director shall make available relevant information maintained in the register to companies and parties requesting for verification of the authenticity and validity of certificates produced to them by seafarers seeking

recognition of their certificates under regulation 18 or for employment on board ship.

Action against candidates found guilty of misconduct.

34. (1) Every candidate shall ensure that —

(a) he shall not furnish any particulars that are false or suppress any material information in filling in any of the forms required to be filled by him;

(b) he shall not correct or alter or otherwise tamper with any entry in a document or its attested or certified copy submitted by him nor shall he submit a tampered or fabricated document; and

(c) if any inaccuracy or discrepancy exists between 2 or more such documents or their attested or certified copies, an explanation regarding such inaccuracy or discrepancy shall be submitted.

(2) A candidate shall be deemed to be guilty of misconduct if found committing any of the following offences —

(a) obtaining support of his candidature by any means;

(b) impersonating;

(c) procuring impersonation by any person;

(d) submitting fabricated or tampered documents;

(e) making statements which are incorrect or false or suppressing material information;

(f) resorting to any other irregular or improper means in connection with his candidature for the examination;

(g) using unfair means during the examination;

(h) writing irrelevant matter including obscene language or pornographic matter in the script;

(i) misbehaving in any other manner in the examination hall;

(j) harassing or doing bodily harm to the staff employed by the Director for the conduct of his examination;

(k) presenting himself while under the influence of alcohol or drugs; or

(l) attempting to commit or abetting the commission of all or any of the acts specified in this sub-regulation.

(3) A candidate found to commit any of the offences specified in sub-regulation (2) may, in addition to rendering himself liable to criminal prosecution, be liable —

(a) to be disqualified by the Director from examination for which he is a candidate;

(b) to be debarred either permanently or for a specified period —

(i) by the Director from any examination or assessment held by him; or

(ii) by the Government from any employment in Brunei Darussalam;

(c) to a fine, at the discretion of the Director, not exceeding \$2,000; or

(d) if he is already in any service, to a disciplinary action under the relevant rules.

Appeal.

35. (1) Any seafarer aggrieved by any order made under these Regulations by any officer below the rank of the Director may appeal to the Director within a period of 60 days from the date of receipt of the order.

(2) Any seafarer aggrieved by any order made under these Regulations by the Director may appeal to the Minister within a period of 60 days from the date of receipt of the order.

(3) No appeal shall be admitted if it is lodged after the expiry of the period prescribed therefor, provided that an appeal may be admitted after the expiry of the period prescribed therefor if the appellant satisfies the Director or Minister, as the case may be, that he has sufficient cause for not lodging the appeal within the prescribed period.

(4) Every appeal lodged under this regulation shall be accompanied by a copy of the order appealed against.

(5) The Director or Minister, as the case may be, before disposing of an appeal shall give a reasonable opportunity of being heard to the appellant.

(6) An appeal shall be disposed of as expeditiously as possible but within a period of 6 months from the date of the order.

(7) The Director or Minister, as the case may be, may confirm, modify or reverse the order appealed against.

Review of results of examination.

36. (1) A candidate who has been declared failed in any examination may apply to the Director for review of results within a period of 30 days from the date of declaration of the results.

(2) Such application shall be made in such form and manner as the Director may approve and shall be accompanied by a fee as prescribed in the Fifth Schedule.

(3) The Director shall assign an examiner, other than the examiner dealing with the examination originally, to review the evaluation.

(4) Results of the review, when approved, shall be final and no appeal against such review shall be accepted.

(5) In case the original result is reversed, the fee shall be refunded to the candidate.

PART IX

MISCELLANEOUS

Fees.

37. The fees specified in the Fifth Schedule shall be paid in respect of the matters to which they relate and such fees are non-refundable, except where otherwise expressly provided.

Prescription of forms and certificates.

38. The forms and certificates contained in the Sixth Schedule shall be used in all cases to which they are applicable, and shall be modified as directed by the Director to meet other cases.

Savings.

39. Any fees, order, notice, form or certificate issued, payable or made under or in accordance with the Merchant Shipping (Manning Scales and Plying Limits) Regulations, 1988 (S 22/88) and the Merchant Shipping (Examination Fees) Regulations, 1989 (S 29/89) which are revoked by these Regulations shall continue to be in force to the extent that they are not inconsistent with or not replaced by the provisions of these Regulations, until revoked or replaced by the provisions of these Regulations.

Revocation.

40. (1) The Merchant Shipping (Manning Scales and Plying Limits) Regulations, 1988 (S 22/88) are hereby revoked.

(2) The Merchant Shipping (Examination Fees) Regulations, 1989 (S 29/89) are hereby revoked.

MINIMUM MANNING SCALES

A. DECK OFFICERS

Trading area	Gross tonnage	Minimum number of qualified deck officers to be carried					
		CoC - Unlimited			CoC - NCV		
		Master	Chief mate	ONW	Master	Chief mate	ONW
Foreign-going (Unlimited)	> 3,000	1	1	1			
	< 3,000	1	1	1			
Near-coastal voyage	> 3,000		1			1	1
	Between 500 and 3,000				1	1	1
	< 500				1	-	1

B. MARINE ENGINEER OFFICERS

Trading area	Registered power (kW)	Minimum number of qualified marine engineer officers to be carried					
		CoC - Unlimited			CoC - NCV		
		Chief engineer	Second engineer	OEW	Chief engineer	Second engineer	OEW
Foreign-going (Unlimited)	> 3,000	1	1	1			
	Between 750 and 3,000		1	2			
	< 750		1	1			
Near-coastal voyage	> 3,000		1			1	1
	Between 750 and 3,000				1	1	1
	< 750					1	1

ANNEX – (continued)

C. RATINGS

Trading area	Gross tonnage	Minimum number of qualified ratings to be carried	
		Ratings forming part of a navigational watch	Ratings forming part of an engineering watch
Foreign-going (Unlimited)	> 500	3	3
Near-coastal voyage	> 500	3	3
	< 500	2	2

Notes:

1. If the above number of officers and ratings are insufficient to ensure adequate rest periods for watchkeepers, additional officers must be provided.
2. For the purpose of safe manning requirements for each ship, companies shall be guided by the provisions of regulation 26.

FIRST SCHEDULE

regulations 8 and 17(2)

MEDICAL EXAMINATION RULES

ARRANGEMENT OF RULES

Rule

1. Application.
2. Approval of medical examiner.
3. Medical examination.
4. Arrangements for medical examination.
5. Appearance for medical examination.
6. Conduct of medical examination.
7. Records of medical examination.
8. Certificate of physical fitness.
9. Records of results at pre-sea training institutes.
10. Validity of certificate of physical fitness.
11. Appointment of Appellate Authority.
12. Appeal against decision of medical examiner.
13. Medical examination fees.

ANNEX 1 – GUIDELINES FOR CONDUCTING PRE-SEA AND PERIODIC
MEDICAL FITNESS EXAMINATIONS FOR SEAFARERS

ANNEX 2 – MEDICAL CONDITIONS WHICH SHOULD BE CONSIDERED WHEN
DECIDING WHETHER TO ISSUE MEDICAL CERTIFICATES TO
SEAFARERS

ANNEX 3 – TABLES

FIRST SCHEDULE

MEDICAL EXAMINATION RULES

Application.

1. These Rules shall apply to every person employed or engaged in any capacity on board ship on the business of that ship as part of the ship's complement.

Approval of medical examiner.

2. The Director shall approve such numbers of medical examiners at such ports or places as he thinks fit for the purpose.

Medical examination.

3. (1) Every seafarer shall, prior to his registration with the Marine Department, appear before a medical examiner approved under rule 2 and obtain a certificate of physical fitness.

(2) At the time of engagement on board the ship the seafarer shall be examined by a medical examiner.

Arrangements for medical examination.

4. (1) On being selected for pre-sea training, the Head or the officer in charge of the pre-sea training institute shall, after satisfying himself that the applicant is eligible, cause the particulars of the seafarer to be entered in a register kept for that purpose and shall fix the date, time and place for his medical examination and inform the medical examiner and the applicant accordingly.

(2) On selection of a seafarer for engagement on board a ship, the owner or agent of the ship shall cause the particulars of the seafarer to be furnished to the medical examiner and fix the date, time and place for medical examination of the seafarer in accordance with these Rules.

Appearance for medical examination.

5. (1) Every seafarer referred to in rule 4 shall present himself before a medical examiner and produce his Seaman's Book, if held, at the appointed time and place for medical examination and at such subsequent dates and times as he may be required by the medical examiner.

(2) If a new candidate applying for a position as a seafarer is not in possession of a Seaman's Book, then his identity card or passport may be acceptable.

Conduct of medical examination.

6. (1) A medical examiner while conducting a medical examination shall be guided by the guidelines set out in Annex 1.

(2) Every seafarer appearing for medical examination shall be subjected to such tests as may be considered necessary for determining his physical fitness in accordance with the prescribed standards as laid down in Annex 2.

(3) If the seafarer's health demands it, the medical examiner may issue a certificate for a shorter period or restrict the holder to such capacity of seagoing service or geographical area as the medical examiner thinks appropriate.

(4) If the medical examiner has reasonable grounds to believe that the decision to award a medical fitness certificate should be reviewed or that the certificate should be withdrawn, he shall notify the seafarer concerned to demand the return of the certificate so that he can —

(a) suspend its validity until the seafarer had undergone a further medical examination;

(b) suspend its validity for such period as he considers the seafarer remains unfit to go to sea; or

(c) cancel the certificate if he considers that the seafarer is likely to remain permanently unfit to go to sea.

(5) While serving on board a ship, the seafarer shall carry the original medical fitness certificate.

(6) Every seafarer appearing for a medical examination shall complete a medical examination of seafarers' declaration in such form and manner and accompanied by such documents and particulars as the Director may determine.

Records of medical examination.

7. The medical examiner shall maintain a full record of the medical examinations conducted with copies of certificates of physical fitness issued and shall also send monthly returns to the Director, showing the results of the medical examination in respect of every seafarer examined during the month as applicable. The date and results of the examination shall also be endorsed under the heading "Additional Endorsements".

Certificate of physical fitness.

8. (1) On completion of initial medical examination, the medical examiner shall issue to every seafarer satisfying the prescribed standards a certificate of physical fitness as set out in the Sixth Schedule.

(2) If a seafarer fails to satisfy the prescribed standards due to any temporary defect which, in the opinion of the medical examiner, is likely to be cured after treatment, the medical examiner shall issue to the seafarer a certificate with the remarks "Temporarily Unfit" indicating the reasons for such unfit condition and with the remarks that the seafarer should appear for re-examination after the cause of his temporary unfit condition is cured.

(3) If a seafarer fails to satisfy the prescribed standards of physical fitness and is found suffering from a disease or physical defect which renders him permanently unfit for sea service, he shall be given a certificate stating that he is "Unfit for sea service".

Records of results at pre-sea training institutes.

9. The Head or officer in charge of a pre-sea training institute shall maintain a record of the results of medical examinations in respect of seafarers referred by him for medical examination.

Validity of certificate of physical fitness.

10. (1) Subject to rule 8, a certificate of physical fitness issued by the medical examiner shall remain valid for —

(a) 5 years for seafarers over the age of 18 years;

(b) 2 years for seafarers below the age of 18 years and over the age of 40 years; or

(c) until such time as the seafarer is found temporarily or permanently unfit in any subsequent medical examination.

(2) The medical examiner may issue a certificate for a shorter period or restrict the holder to such capacity of seagoing service or geographical area as he thinks appropriate, if the seafarer's health demands it.

Appointment of Appellate Authority.

11. (1) The Director may, by order in writing, constitute an Appellate Authority comprising of not less than 3 specialists in any branch of medical science.

(2) The panel of specialists constituting the Appellate Authority shall be drawn by the Director.

(3) No person in the employment of any owner or agent of a ship or of representative organisations of shipowners or of seafarers shall be empanelled in constituting such Appellate Authority.

Appeal against decision of medical examiner.

12. (1) Within a period of 60 days from the date on which he is declared unfit by a medical examiner, a seafarer may appeal against such decision to the Director.

(2) An appeal may be admitted after the expiry of the period of 60 days if the appellant satisfies the Director that he had sufficient cause for not making such appeal within the prescribed period.

(3) Every appeal made under this rule shall be accompanied by a copy of the order appealed against.

(4) On receipt of the appeal the Director shall refer it to the Appellate Authority and inform the seafarer of the date, time and place of his examination by the Appellate Authority.

(5) The Appellate Authority shall give the appellant a reasonable opportunity of being heard before disposing of an appeal.

(6) An appeal shall be disposed of as expeditiously as possible but within a period of 60 days from the date of filing of the appeal.

(7) The Appellate Authority may confirm, modify or reverse the order appealed against.

(8) The decision of the Appellate Authority shall be binding on the seafarer as well as owner or agent of the ship.

(9) A seafarer who has put in active service on ships for not less than 5 years may apply to the Director within a period of one year from the date on which the Appellate Authority had declared him permanently unfit for reviewing his case if he has obtained a certificate of physical fitness from a medical specialist in that branch of medical science to which his ailment relates:

Provided that the Director may admit any application made after the period of one year if he is satisfied that the seafarer had sufficient cause for not making the application within such period.

Medical examination fees.

13. Every candidate shall pay medical examination fees on each occasion he applies for an examination, in accordance with the scale of fees specified by the Ministry of Health.

ANNEX 1

rule 6(1)

**GUIDELINES FOR CONDUCTING PRE-SEA AND PERIODIC MEDICAL FITNESS
EXAMINATIONS FOR SEAFARERS**

Aspects of seafaring life relevant to medical examination of seafarers.

1. The medical examiner shall bear in mind the following aspects of shipboard life —

(a) as ships often operate far offshore or in inaccessible areas, it is often difficult to replace seafarers who become injured or ill. Many ships have only the minimal number of persons on board necessary to operate the ship, thus the incapacitation of even one seafarer may place a substantial additional burden on his shipmates;

(b) ship's officers generally receive basic first aid and other medical training, and ships are usually equipped with basic medical supplies. Nevertheless, it is often quite difficult to transport sick or injured seafarers ashore where they can be treated by licensed physicians. In some geographical areas, the closest medical care facilities ashore may be well below the standard of the seafarers' home country or territory. It is therefore unadvisable and often unsafe to allow persons with certain medical conditions to become seafarers or to return to seagoing employment;

(c) seafarers live close to each other at sea, often for long periods. Contagious diseases therefore may be a serious threat, endangering not only the health of other seafarers but also the safety of the ship and, where carried, passengers. It is particularly important that seafarers concerned with the preparation of food do not suffer from conditions which may be transmitted to others through this work;

(d) seafarers must be both physically and psychologically fit to perform their normal duties correctly and to be able to respond to emergency situations (example, fighting fires, lowering lifeboats, assisting passengers etc.). They should be able to adjust to continual vibration and the often-violent motions of the ship, to be able to live and work in sometimes cramped spaces, to be able to climb ladders and to lift heavy weights and to be able to withstand exposure to harsh weather conditions on deck or excessive heat in the machinery spaces. As they often travel by air to reach

and return from their ships, they must not suffer from conditions which prohibit air travel;

(e) seafarers should be able to live and work closely with the same people for weeks and perhaps months on end and under often-stressful conditions. They must be capable of dealing effectively with isolation from family and friends and, in some cases, from persons of their own cultural background.

Type and frequency of medical examinations.

2. (1) There are 2 types of medical examinations —

(a) **PRE-SEA** medical examinations conducted before a person embarks upon a seafaring career; and

(b) **PERIODIC** medical examinations conducted either before a seafarer reports to a ship or at periodic intervals during the seafarer's career.

(2) A medical certificate signed by the medical examiner shall be issued to seafarers who pass the examination. Without such a certificate seafarers are prohibited from working on board ships.

(3) A pre-sea medical examination provides an opportunity to prevent a person, for health reasons apparent at the time, from embarking on a seafaring career. It is therefore more stringent in nature than a periodic examination, bearing in mind that the objective is to head-off an unhealthy or unwise career choice. By its very nature, this examination may occur only once, and it is very important that the medical examiner conducts it thoroughly.

(4) A periodic medical examination provides an opportunity to ensure that a seafarer remains fit for sea service by identifying medical conditions which may have developed since the seafarer entered the profession. It should be more flexible than the pre-sea examination, yet not so flexible as to permit unfit seafarers from returning to work at sea. Seafarers shall be examined at least every 2 years and those above the age of 40 years shall be examined at least every year. If a seafarer has been incapacitated by illness or injury for 30 or more days, the medical examination shall be repeated.

Conduct of medical examinations.

3. The following suggested procedures do not aim to replace the judgment or experience of the medical examiner but shall serve as a tool to assist in the conduct of examinations of seafarers —

(a) the medical examiner shall determine if the purpose of the examination is to determine if a person is fit for a seafaring career (pre-sea examination) or to determine if the person is fit to return to sea (periodic examination) and conduct the examination accordingly;

(b) the identity of the person to be examined shall be verified. The number of his Seaman's Book, passport or other relevant identity document shall be entered on the examination form;

(c) the examinee's intended position on board ship and, as far as practicable, the physical and psychological requirements of this work shall be determined. The type of shipping operation (example, foreign, coastal or harbour service) and cargo type (container ship, chemical tanker etc.) shall also be considered as this information may lead to closer scrutiny or to less stringency in certain aspects of the examination;

(d) the examinee's previous medical records, if available, shall be reviewed;

(e) information shall be collected directly from the examinee on his previous medical history. Point-by-point questions on the details of previous diseases and injuries shall be asked and the results recorded. Details on other diseases or injuries not covered shall also be recorded. After the information is collected, the examinee shall sign a declaration form to certify that it is a true statement. Such declaration form shall be made in such form and manner as the Director may determine;

(An individual shall not, however, bear the burden of proof concerning the consequences of physical or mental illness, past or present, on his fitness for work)

(f) the examinee's weight, height, pulse rate and blood pressure shall be measured and recorded. The results of laboratory tests, ECG, chest X-ray and, if necessary, other examinations shall be checked and recorded;

(If drug and alcohol testing is required, reference shall be given to the Guiding Principles on Drug and Alcohol Testing Procedures for Worldwide Application in the Maritime Industry adopted by the Joint International Labour Organisation/ World Health Organisation Committee on the Health of Seafarers (Geneva, 10-14 May 1993))

(g) hearing, eyesight and colour vision shall be checked and recorded. Hearing shall be in compliance with the hearing standards set out in paragraph 14 of Annex 2. Eyesight shall be in compliance with the eyesight standards set out in paragraphs 15 to 18 of Annex 2;

(h) the examinee's vaccination record shall be examined. Advice shall be given on immunisations. If new vaccinations are given they shall be

recorded on the International Certificate of Vaccination as referred to in paragraph 4;

(i) the results of the examination shall be recorded and assessed to determine if the seafarer is fit for the work envisioned to be undertaken. Annex 2 contains information on medical conditions which shall be taken into account when considering whether a person is fit or currently unfit for work at sea. The age and experience of the person to be examined, the nature of the duties to be performed and the type of shipping operation and cargo shall also be considered;

(j) if the examinee is found fit for the work to be performed the medical certificate shall be issued. Any restrictions concerning work shall be reflected in the description of the work he is fit to undertake;

(k) if the examinee is found temporarily unfit for service, and therefore is not to be granted a medical certificate, he shall be given an explanation of the reasons. Advice shall be given on the need to make additional tests, to obtain opinions from specialists, to complete dental or other treatment, to undergo rehabilitation etc. The examinee shall be informed when to return for another examination. He shall be advised on the right to appeal and how an appeal can be made;

(l) as appropriate, and if time permits, the seafarer shall be counselled on life style (avoid alcohol intake, stop smoking, modify diet, lose weight etc.), on the dangers and methods of prevention of HIV/AIDS and other venereal diseases. Printed health educational materials on drug and alcohol abuse prevention, smoking cessation, diet, HIV/AIDS prevention etc. shall also be provided, if available;

(If the tests for HIV which may have been carried out in connection with the examination reveal a positive result, the seafarer shall always be informed)

(m) the medical examination form shall be clearly marked "CONFIDENTIAL" and be retained for at least 10 years in the health establishment where the medical certificate was issued. The file shall only be made available for medical purposes related to the performance of duties or the provision of medical care;

(n) a copy of the medical examination form shall be given to the seafarer and the seafarer shall be advised to bring it to the next medical examination or when he is treated for an illness or injury. If possible, a card indicating blood type and other vital information may also be given to the seafarer to facilitate emergency treatment;

(o) the serial number of the medical certificate shall be recorded and the signed certificate shall be given to the seafarer.

Vaccination requirements for seafarers.

International Certificate of Vaccination.

4. (1) Seafarers shall carry an International Certificate of Vaccination indicating the type, and place and time given, of all vaccinations.

Obligatory vaccination for yellow fever.

(2) Some countries require a valid International Certificate of Vaccination for yellow fever and often this is strictly enforced for persons arriving from Asia, Africa or South America. It is recommended for health purposes but it also facilitates travel to, from and through countries or territories from these regions. The vaccination certificate is only valid if it conforms with the World Health Organisation model, if the vaccine has been approved by the World Health Organisation, and if it is administered by an approved Yellow Fever Vaccination Centre. The period of validity of the yellow fever certificate is 10 years, beginning 10 days after vaccination. If the person is revaccinated before the end of this period, the validity is extended for a further 10 years from the date of the vaccination. If the vaccination is recorded on a new certificate, the seafarer is advised to retain the old certificate for 10 days while the new certificate becomes valid.

Non-obligatory voluntary immunisations for seafarers.

(3) These are immunisations that are not required for seafarers according to the International Health Regulations of the World Health Organisation. Such immunisations are, however, recommended for seafarers and shall be given on request. The following are recommended —

(a) *Viral Hepatitis Type A* (infectious hepatitis, epidemic hepatitis);

(b) *Viral Hepatitis Type B* (serum hepatitis) — When scheduling inoculation, medical examiners will need to bear in mind that doses are recommended at either 0, 1 and 6-month intervals or 0, 1 and 2-month intervals, with a booster at 12 months. Consideration must therefore be given to when the seafarer will be at sea and thus unable to receive the vaccine;

(c) *Tetanus* — Most seafarers will have been immunised, however, booster doses are required every 8 to 10 years. It is preferred that this vaccine be administered before the seafarer is on board ship, as the alternative (administering the anti-tetanus immune serum after an injury) may in some persons result in a dramatic and dangerous allergic reaction which could present a serious health risk at sea;

(d) *Poliomyelitis* — Re-immunisation, by a booster dose of the oral polio vaccine, is recommended every 5 years. Persons not previously immunised shall be vaccinated with the full course of killed or inactivated (Salk) polio vaccine (IPV) prior to taking employment on ship. Medical examiners shall bear in mind that the doses should be made in 2 at one-month intervals, plus one dose after 6 to 12 months. This will affect the scheduling of the seafarer joining ship.

ANNEX 2

rule 6(2)

**MEDICAL CONDITIONS WHICH SHOULD BE CONSIDERED WHEN DECIDING
WHETHER TO ISSUE MEDICAL CERTIFICATES TO SEAFARERS**

The following medical conditions generally render a person unfit for work at sea. The medical examiner shall consider with regard to the individual examinee whether such conditions render him unfit for the duties he is expected to perform and the shipping operation contemplated and, if so, whether the condition or conditions may be remedied or sufficiently mitigated to allow such work. The medical examiner shall not only consider the health and safety of the examinee but also the health and safety of other seafarers and passengers, as well as the safety of the ship. If a seafarer is granted a medical certificate while experiencing such conditions the exceptions shall be justified and any restrictions shall be clearly noted. The medical examiner shall bear in mind that it is not possible to develop a comprehensive list of contra-indications but that this list may provide some guidance. It cannot replace sound medical judgment.

Infectious and parasitic diseases.

1. (1) Acquired Immune Deficiency Syndrome (AIDS).
- (2) Enteritis, active.
- (3) Hepatitis, active or chronic, within 6 months.
- (4) Sexually transmitted diseases, active.
- (5) Tuberculosis, active.

(The examining physician shall take into account the advice of a chest physician, whether the lesion is fully healed and whether the patient has completed a full course of chemotherapy. Cases where either one or both lungs have been seriously affected are rarely suitable for re-employment).

- (6) Typhoid, active or carrier.
- (7) Malaria.

(8) Lice.

(9) Scabies.

(10) Any other infectious or parasitic disease in its communicable or carrier state which would present a health hazard to other crew members or passengers through casual contact.

Malignant neoplasms.

2. Malignancies of any type which could be considered to disqualify a seafarer from duty until evaluated. Any malignancy currently receiving treatment renders a person unfit for work at sea.

(Exceptions may be appropriate for serving seafarers after treatment and without signs of recurrence).

Endocrine, nutritional and metabolic conditions and immunity disorders.

3. (1) AIDS.

(2) Adrenal insufficiency, uncontrolled.

(3) Diabetes Mellitus.

(4) Immunosuppressive therapy.

(5) Obesity, incapacitating function.

(6) Thyroid disease.

(7) Abnormal liver or kidney functions.

(8) Any disease of the endocrinal glands.

Diseases of blood and blood forming organs.

(Seafarers serving on board chemical bulk carriers shall have their blood tested every 12 months. The tests shall include liver function tests and leucocyte count and be evaluated by a medical examiner).

4. (1) Anaemia, symptomatic.

(2) Myelodysplasia.

- (3) Splenomegaly, symptomatic or not defined.
- (4) There should be no significant disease of the haemopoetic system.

Mental disorders.

5. (1) Active alcohol, substance abuse or dependence, if persistent and affecting health causing physical or behavioural disorder.

(2) Acute psychosis, whether organic, schizophrenic or any other listed in the International Classification of Diseases.

- (3) Psychoneurosis, major depression or mania.
- (4) Dementia.
- (5) Depression, active, requiring medication.
- (6) Personality disorder, active.

(Observation of acute manifestations of a psychiatric disorder will indicate the need for psychiatric evaluation).

Conditions of nervous system and sense organs.

- 6. (1) Ataxia, vertigo, active.
- (2) Convulsive disorder, if any.
- (3) Epilepsy.
- (4) Unsteadiness of gait.
- (5) Impairment of central nervous system function, secondary or active medical disorders (diabetes, toxic reaction, thyroid disorders).
- (6) Post concussion syndrome, active.
- (7) Stroke.
- (8) Tremors, active, interfering with fine motor function.
- (9) Migraine, frequent attacks causing incapacity.
- (10) Syncope and other disturbances of consciousness.

(11) Meniere's disease.

(12) Hearing loss, sudden or progressive, if sufficient to interfere with communication.

(The use of a satisfactory hearing aid at work could be considered only in catering staff. The hearing aid should be sufficiently effective to allow communication at normal conversational levels of sound. Serving radio and engineer officers shall be given audiometric examinations during periodic medical examinations) — Also refer to paragraph 14.

(13) Epistaxis, frequent.

(14) Sinusitis, recurrent, draining.

Conditions of cardiovascular system.

7. (1) Conditions requiring anticoagulant medication.

(2) Aortic aneurysm, angina pectoris.

(3) Arrhythmia.

(4) Blood pressure, above 150/90 mmHg (in new candidates); 160/100 mmHg or above in serving seafarers under the age of 50 years; 175/100 mmHg in serving seafarers over the age of 50 years; or blood pressure maintained below these levels by any anti-hypertension therapy without significant side effects.

(5) Hypertension, treated, with medication needing close monitoring pacemaker dependent.

(6) Coronary bypass grafting.

(7) Coronary angioplasty.

(8) Pacemaker - dependency, heart valvular disease.

(9) Claudication.

(10) Myocardial infarction, acute.

(11) Other vascular disease, symptomatic.

(12) Any cerebrovascular accident, including transient ischaemic attacks.

(13) General cerebral arteriosclerosis, including dementia and senility.

- (14) Varicose veins, moderate degree, with recurrent symptoms; after operation, with symptoms; or not suitable for treatment.
- (15) Chronic varicose ulcerations.
- (16) Lacerant or persistent deep thrombosis or thrombophlebitis.
- (17) Haemorrhoids, prolapsed, bleeding causing symptoms (unoperated).
- (18) Varicocele, with symptoms (unoperated).

Conditions of respiratory system.

- 8. (1) Bronchial asthma, acute or chronic.
- (2) Chronic bronchitis and emphysema: cases with recurring illness causing significant disability.
- (3) Pneumothorax, spontaneous, within 12 months.
- (4) Tumour.
- (5) Pulmonary Koch's, with less than 12 months treatment.
- (6) Chest - minimum 74 cm (29 inches) with expansion range of 5 cm (2 inches) —
 - (a) chest should be well developed, well proportioned and there should be no evidence or history of pulmonary tuberculosis or other acute or chronic diseases of the lung, or the upper respiratory tract;
 - (b) an X-ray or screening examination of the chest will be carried out in all cases and defect, disability which disqualify a candidate shall be recorded;
 - (c) candidate should be free from all forms of diseases of the respiratory system;
 - (d) there shall be no deformity of chest which may cause impediment to breathing;
 - (e) lung function - the resting respiratory rate should be below 20 per minute. The holding time should not be less than 30 seconds. The chest expansion should not be less than 5 cm (2 inches). Seafarers who measure poorly in these tests to be subjected to a Vitalometry test for a definite indication of lung function.

Oral health.

9. (1) Mouth or gum infections, until treated.
- (2) Dental defects, until treated (seafarers should be dentally fit).
- (3) Speech with impediments or loss of speech.

(4) Teeth - the acceptance or rejection on account of loss or decay of teeth will depend on the relative position of the sound teeth and the physical condition of the seafarer. He must have sufficient number of teeth to enable him to masticate efficiently and on no account would artificial dentures be acceptable for sufficient mastication. In order to assess whether a candidate has sufficient number of teeth to masticate efficiently, the following guidelines are to be taken into consideration —

(a) teeth, which are not considered necessary for efficient mastication, are allotted one point each and those essential 2 points each. For instance, each incisor, canine, first and second premolars will have a value of one point, provided their corresponding lower teeth are present;

(b) each first and second molar and well developed third molar will have a value of 2 points, provided they are in good opposition to corresponding teeth in the lower jaw. In case the third molar is not well developed, it will have a value of one point only;

(c) when all the 16 teeth are present in the upper jaw and in good functional opposition to corresponding teeth in the lower jaw, the total value will be 20 or 22 points according to whether the third molars are well developed or not;

(d) the following teeth will be present in the upper jaw and in good functional opposition to corresponding teeth in the lower jaw —

(i) any 4 of the 6 anterior; and

(ii) any 6 of the 10 posterior;

(e) provided there are at least 14 dental points in the mouth, all these teeth must be sound and repairable. The minimum number of points required is 14;

(f) seafarers with severe Pyorrhoea are to be rejected. If Pyorrhoea is slight and teeth are otherwise sound, the seafarer may be accepted if, in the opinion of the dental doctor, he can be cured by normal dental treatment excluding extraction.

Conditions of digestive system.

10. (1) Abdominal lump.
- (2) Abscess, perirectal or abdominal, active.
- (3) Appendicitis.
- (4) Bleeding, rectal.
- (5) Cholelithiasis, symptomatic within 6 months; Gall stones.
- (6) Diarrhoea, active.
- (7) Gastric or intestinal ulceration.
- (8) Haematemesis, within 3 months.
- (9) Hepatitis, active or chronic, within 6 months.
- (10) Jaundice, current.
- (11) Pancreatitis, active.
- (12) Peptic ulcer disease (in new candidates).

(In the case of serving seafarers, those with proven ulceration shall not return to seafaring until they are free of symptoms. There shall be gastroscopie evidence of healing and the seafarer should have been on an ordinary diet, without treatment, for at least 6 months. Persons who have had gastro-intestinal bleeding, perforation, recurrent peptic ulceration (despite treatment) or complications after surgery shall be classified as unfit for work on ships).

- (13) Cirrhosis of the liver, where the condition is serious or progressive or where complications such as sesophageal varices or ascites are present.
- (14) Splenomegally.
- (15) Hepatomegally.
- (16) Fissure or Fistula in Ano (unless operated).
- (17) Abscesses (unless operated).

Conditions of genito-urinary system.

11. (1) All cases of proteinuria, glycosuria, or other urinary abnormalities.
- (2) Nephritis, acute, subacute, or chronic.
- (3) Urinary obstructions, if not remediable.
- (4) Renal or ureteric calculus, untreated.
- (5) Removal of kidney.

(Exceptions may be appropriate for serving seafarers).

- (6) Renal transplant.
- (7) Renal insufficiency, active.
- (8) Incontinence of urine, if not remediable.
- (9) Prostatism with retention, untreated.
- (10) Urethral discharge, active.
- (11) Hydrocoele, large and recurrent.
- (12) Hernia, direct and indirect.

Conditions of skin.

12. (1) All infections of the skin, until satisfactorily treated.
- (2) Acute eczema.
- (3) Dermatoses, severe or uncontrolled.
- (4) Manifestations of systemic disease (example, lupus, allergy).
- (5) Carcinoma.

Conditions of musculoskeletal system.

13. Seafarers shall have no defect of the musculoskeletal system that could interfere with the discharge of their duties (muscular power, balance, mobility and co-ordination should be unimpaired). Limb prosthesis would not be acceptable.

Hearing.

14. (1) **Candidates:** unaided average threshold higher than 40db in both ears at 500, 1,000, 2,000 and 3,000 Hz or functional speech discrimination less than 90% at 55db in both ears.

(2) **Serving seafarers:** unaided average threshold higher than 70db in both ears at 500, 1,000, 2,000 and 3,000 Hz or functional speech discrimination less than 80% at 55db in both ears.

(3) Ears —

(a) there shall be no impaired hearing, discharge from or disease of either ear, unhealed perforation of the tympanic membrane or signs of acute or chronic supportive otitis media or evidence of radical or modified radical mastoid operation, and no congenital malformation of the ear; and

(b) shall be able to hear a whisper at a distance of 5 metres on each side. No disease shall be present. No hearing aid shall be permitted.

Eyesight.

15. (1) The standards for pre-sea medical examination are given below —

(a) there should not be any degree of squint or any morbid condition of either eye or of the eyelids, pressure of trachome and iris complications sequela. Candidates must possess good binocular vision (fusion faculty and full field of vision in both eyes). Movement of the eyeballs must be full in all directions and the pupils should react normally to light and accommodation;

(b) Deck Department (including deck and general-purpose crew) —

(i) distance vision (unaided) —

(A) 1.0^s (6/6) in better eye; and

(B) 0.67^s (6/9) in other eye;

(ii) normal colour vision (to be tested by Ishiara test chart).

In addition, deck cadets and deck officers for certification up to master are required to pass sight tests, conducted by Marine Department or approved medical examiner as given in Table 2 of Annex 3;

(c) Engine Department (including engine room crew) —

- (i) distance vision (unaided) —
 - (A) 0.5^s (6/12) in each eye; or
 - (B) 0.67^s (6/9) in better eye; and
 - (C) 0.33^s (6/18) in other eye;
 - (ii) normal colour vision (to be tested by Ishiara test chart);
- (d) Catering Department (including second cooks and utility hands) —
- (i) distance vision (unaided) —
 - (A) 0.33^s (6/18) in each eye; or
 - (B) 0.5^s (6/12) in better eye; and
 - (C) 0.25^s (6/24) in other eye;
 - (ii) normal colour vision (to be tested by Ishiara test chart);
- (e) radio officers and electrical or electronic officers —
- (i) distance vision (unaided) —
 - (A) 0.5^s (6/12) in each eye; or
 - (B) 0.67^s (6/9) in better eye; and
 - (C) 0.33^s (6/18) in other eye;
 - (ii) normal colour vision (to be tested by Ishiara test chart).

(^s = Values given in Snellen Decimal Notation).

(2) The standards for periodic medical examination are given in accordance with table B-I/9 of the STCW Code as set out in Table 3 of Annex 3.

(3) Persons requiring the use of spectacles or contact lenses to perform duties shall have a spare conveniently available on board the ship. Any need to wear visual aids to meet the required standards shall be recorded on each certificate and endorsement issued.

(4) Eyes of seafarers shall be free of disease. Any permanent or progressing debilitating pathology without recovery shall be cause for determination of unfit condition.

PART I – Sight tests.

Letter test.

16. (1) (a) The first test which the candidate shall have to undergo is the letter test conducted on Snellen's principle by means of sheets of letters. On each sheet the fifth, sixth and seventh lines correspond to standards 0.5^s (6/12), 0.67^s (6/9) and 1.0^s (6/6) respectively.

(^s = Values given in Snellen Decimal Notation).

(b) Before the commencement of the test, the candidate who is not a new entrant shall advise the examiner whether or not he intends to use artificial aids to form vision. Such aids to form vision shall constitute of either spectacles or contact lenses. Tinted lenses shall not be permitted.

Standard of vision required.

- (2) (a) Candidates shall be tested in each eye separately.

(b) A candidate, other than a new entrant, who attempts the sight test without the use of aids to form vision shall be required to read down to and including the seventh line with the better eye and down to and including the sixth line with the other eye.

(c) A candidate, other than a new entrant, who attempts the sight test using aids to form vision shall be required –

- (i) with aids to form vision, to read correctly down to and including the seventh line with the better eye and down to and including the sixth line with the other eye; and
- (ii) without aids to form vision, to read correctly down to and including the fifth line with the better eye and down to and including the third line with the other eye.

(d) A candidate who is a new entrant, that is to say, a candidate who is going out to sea to serve in the Deck Department for the first time, shall be tested with each eye separately. He shall be required to read down to and including the seventh line with the better eye and to read down to and including the sixth line with the other eye. He shall also be required to read

all letters in the seventh line with both eyes. A new entrant shall not be permitted to use aids to form vision.

Method of testing.

(3) (a) The test card shall be mounted at a convenient height and shall be properly illuminated. Daylight shall not be used. The testing room shall be moderately lighted so that extreme contrast between the test card and background is avoided.

(b) The candidate shall stand exactly 6 metres from the card facing it squarely. He shall then be required to read the letters on the sheet from left to right, beginning at the top and going downwards.

(c) Care shall be taken by varying the order of the test sheets to guard against the possibility of any deception on the part of the candidate.

Failure.

(4) If the candidate fails to reach the standard required on the first sheet, he shall be tested with at least 4 sheets. If he fails to reach the standard in at least 3 of the 4 sheets, the following alternatives may be explained to him —

(a) he may break off the test and present himself for re-testing in not less than 3 months, in which case a certificate of failure shall be issued to him;

(b) if he is not a new entrant and has not used aids to form vision at his first attempt, he may present himself for re-testing any time with artificial aids to form vision; or

(c) he may proceed to the lantern test. In this case, a record of all mistakes made in the letter test and all mistakes, if any, made in the lantern test shall be forwarded to the appropriate examiner in the Marine Department, who shall decide whether the candidate has passed or failed in the sight test.

PART II — Lantern test - Apparatus.

17. (1) (a) A special lantern and a mirror shall be provided for this test. The test is to be conducted in a room so darkened as to exclude all light.

(b) The lantern shall be placed directly in front of the mirror, so that the front part of the lantern shall be exactly 3.05 metres from the mirror, and

in such a position that the lights reflected in the mirror show clearly when viewed by the candidate on the left of the lantern.

(2) (a) A candidate, other than a new entrant, who has used artificial aids to form vision in the letter test may continue to use such aids in the lantern test.

Darkness adaptation.

(b) If a candidate makes mistakes at the beginning of the lantern test, he shall be kept in a completely or partially darkened room for at least a quarter of an hour, and shall then begin the test again.

Method of testing.

- (c) (i) The lantern supplied for the test shall be so constructed as to allow one large or 2 small lights to be visible, and is fitted with 9 glasses of 3 colours red, white and green. At the beginning of the test the candidate shall be shown a series of lights through the large aperture, and he shall be required to name the colours as they appear. Care shall be taken in showing the fact that the light is not a pure white. If a candidate makes a mistake in calling such light "red", a proper red light shall be shown immediately after and this attention directed to the difference between the two.
- (ii) After a series of lights through the large aperture has been shown, 4 circuits and one broken circuit with the 2 small apertures shall be made with the candidate naming the colours of each set of 2 lights from left to right.

Results of lantern test.

(3) (a) If a candidate does not make any mistake in the lantern test after passing the letter test, he shall be deemed to have passed the whole test and the examiner shall issue a certificate to that effect.

(b) If, with either the large aperture of the lantern, a candidate mistakes red for green or green for red, he shall be considered to have failed in the lantern test.

(c) If a candidate makes any other mistakes with the lantern, that is to say, if he calls white "red" or red "white" or confuses green and white, his case shall be submitted to the appropriate examiner in the Marine Department, and he shall be informed that the decision as to whether he is

passed or failed, or must undergo a further test shall be communicated to him in due course. Pending the receipt of the appropriate examiner in the Marine Department, a candidate shall only be allowed to proceed with his examination for a certificate of competency on the express understanding that the examination shall be cancelled in the event of failure in the sight tests. In every such case the candidate shall be notified by the examiner of his success or failure or that his case has been referred for special consideration.

Re-testing of unsuccessful candidate.

(4) A candidate who fails to pass the local lantern test shall not again be tested locally, unless the appropriate examiner in the Marine Department directs that he may be so tested. The certificate issued to the candidate shall state whether or not he may be tested locally.

PART III – Special examination and appeal.

Special examination – referred cases.

18. (1) In the case of any candidate who is referred to the appropriate examiner in the Marine Department under sub-paragraph (3)(c) of paragraph 17, the examiner may make arrangements for a special examination. In any such case, no additional fee shall be charged for the special examination.

Appeals.

(2) A candidate who is adjudged to have failed in the local lantern test may appeal for a review. In every such case, the appropriate examiner in the Marine Department shall make arrangements for examination of the candidate by a special body of examiners and the candidate shall pay the appropriate fees specified by the Ministry of Health.

Examination Board.

(3) The special and appeal examinations shall be conducted by a Board consisting of an appropriate examiner in the Marine Department or his nominee and a specialist advisor on eyesight appointed by the Director.

Intimation regarding examination.

(4) When any special or appeal examination by the Board is arranged, the appropriate examiner in the Marine Department shall give sufficient advance notice of the date and time of such examination to the candidate.

Punctual attendance.

(5) (a) Any notice sent by the examiner in the Marine Department regarding the date and time of special or appeal examination shall be acknowledged by the candidate. If any candidate is unable to attend examination and gives valid reasons, the examiner in the Marine Department may alter the programme of examination and give a new notice to the candidate.

(b) If any candidate, being a candidate referred to the appropriate examiner in the Marine Department under sub-paragraph (1), fails to appear for the examination at the appointed date and time, the appropriate examiner in the Marine Department may defer his special examination by an indefinite period.

(c) If any candidate, being an appellant under sub-paragraph (2), fails to appear for the examination at the appointed date and time, the fee paid by him shall be forfeited. Arrangement for his examination by the Board on any other date may be made on his payment of a further fee.

Failures.

(6) (a) Where, on examination, any candidate appearing before the Board under sub-paragraph (1) or (2) is found to have a permanent defect in his eyesight which renders him unfit for a sea career, such candidate shall be finally rejected and may not be permitted to appear for sight test on any occasion in future.

(b) Any candidate declared failed at the examination by the Board may apply for re-examination by the Board under sub-paragraph (7) in the presence of an ophthalmic surgeon appearing in his behalf.

(c) Any candidate who fails in the examination but is not finally rejected by reason of being found to be free from any permanent eye defect may, at his choice, appear before the Board for examination as an appellant under sub-paragraph (2) after a lapse of 3 months from the date of examination or seek re-examination under sub-paragraph (7), in either case, on payment of the appropriate fees.

Re-examination.

(7) (a) Any candidate seeking re-examination by the Board shall pay an appropriate fee as prescribed by the Ministry of Health. This fee shall not be refundable whether the candidate is finally adjudged passed or failed.

(b) An application for a sight test shall be made in such form and manner and accompanied by such documents and particulars as the Director may determine. A sight test certificate shall be issued to the candidate as set out in the Sixth Schedule.

(NOTE: All candidates who have passed the sight tests with artificial aids are advised to use such aids when on watchkeeping duties at sea and in port and to carry a spare pair of properly corrected spectacles at all times for use in emergency).

Height and weight.

19. The minimum requirements in respect of new entrants are —

(a) height 157 cm (5' 2");

(b) weight 48 kg (105 lbs).

Weight to be proportionate to height and age, \pm 10% acceptable.

Average values are given in Table 1 of Annex 3.

ANNEX 3

TABLE 1

paragraph 19 of Annex 2

IDEAL BODY WEIGHT CHART

HEIGHT (men)			WEIGHT (kg)	
Feet	Inches	Metres	Acceptable	Obese
5	2	1.58	51-64	77
5	3	1.60	52-65	78
5	3.5	1.62	53-66	79
5	4.5	1.64	54-67	80
5	5.5	1.66	55-69	83
5	6	1.68	56-71	85
5	7	1.70	58-73	88
5	7.5	1.72	59-74	89

ANNEX 3 – (continued)

HEIGHT (men)			WEIGHT (kg)	
Feet	Inches	Metres	Acceptable	Obese
5	8.5	1.74	60-75	90
5	9.5	1.76	62-77	92
5	10	1.78	64-79	95
5	11	1.80	65-80	96
5	11.5	1.82	66-82	98
6	0.5	1.84	67-84	101
6	1	1.86	69-86	102
6	2	1.88	71-88	106
6	3	1.90	73-90	108
6	3.5	1.92	75-93	112

Note:

- Height without shoes.
- Weight in indoor clothing.

(From the recommendations of the Fogarty Centre Conference on Obesity 1973 (Bray 1979) and based on the original Metropolitan Life Insurance Tables (1959)).

TABLE 2
MINIMUM IN-SERVICE EYESIGHT STANDARDS

paragraph 15(1) of Annex 2

STCW Convention Regulation	Category of seafarer	Distance vision *		Near/Intermediate vision and colour vision	Visual fields	Night blindness	Diplopia (double vision)
		One eye	Other eye	Both eyes together, aided or unaided			
I/11 II/1 II/2 II/3 II/4	Masters, deck officers and ratings required to undertake look-out duties			Vision required for ship's navigation (e.g. chart and nautical publication reference, use of bridge instrumentation and equipment and identification of aids to navigation)	Normal visual aids	Vision required to perform all necessary functions in darkness without compromise	No significant condition evident
	Aided	0.5 ** (6/12)	0.5 (6/12)				
	Unaided	0.1 (6/6)	0.1 (6/6)				
I/11 III/1 III/2 III/3 III/4	All engineer officers and ratings forming part of an engine room watch			Vision required to read instruments in close proximity, to operate equipment, and to identify systems or components as necessary	Sufficient visual aids	Vision required to perform all necessary functions in darkness without compromise	No significant condition evident
	Aided	0.4 (6/15)	0.4 (6/15)				
	Unaided	0.1 (6/6)	0.1 (6/6)				
I/11 IV/2	Radio officers and electrical or electronic officers			Vision required to read instruments in close proximity, to operate equipment, and to identify systems or components as necessary	Sufficient visual aids	Vision required to perform all necessary functions in darkness without compromise	No significant condition evident
	Aided	0.4 (6/15)	0.4 (6/15)				
	Unaided	0.1 (6/6)	0.1 (6/6)				

* Values given in Snellen decimal notation.

** A value of at least 0.7 (6/9) in one eye is recommended to reduce the risk of underlying eye disease.

TABLE 3

paragraph 15(2) of Annex 2

GUIDANCE ON ASSESSMENT OF MINIMUM ENTRY LEVEL AND IN-SERVICE PHYSICAL ABILITIES FOR SEAFARERS ^{1,2,3}

Shipboard task, function, event or condition	Related physical ability	A medical examiner shall be satisfied that the candidate ^{4,5}
Routine movement on slippery, uneven and unstable surfaces; risk of injury	Maintain balance (equilibrium)	has no disturbance in sense of balance
Routine access between levels; emergency response procedures	Climb up and down vertical ladders and stairways	is able without assistance to climb up and down ladders and stairways (inclined ladders)
Routine movement between spaces and compartments; emergency response procedures	Step over coamings (e.g. to 60 cm in height)	is able, without assistance, to step over a high door sill (coaming)
Open and close watertight doors; hand cranking systems, open and close valve wheels; handle lines, use hand tools (i.e. spanners, fire axes, valve wrenches, hammers, screwdrivers, pliers)	Manipulate mechanical devices (manual and digital dexterity, and strength)	is able to grasp, lift and manipulate various common shipboard tools; move hands and arms to open and close valve wheels in vertical and horizontal directions; rotate wrists to turn handles
Access throughout ship; use tools and equipment; emergency response procedures must be followed promptly, including donning of life jacket or exposure suit	Move with agility	does not have any impairment or disease which could prevent his normal movement and physical activities
Handle ship stores; use tools and equipment; handle lines; follow emergency response procedures	Lift, pull, push and carry a load	does not have any impairment or disease which could prevent his normal movement and physical activities
Overhead storage; opening and closing valves	Reach above shoulder height	does not have any impairment or disease which could prevent his normal movement and physical activities
General ship's maintenance; emergency response procedures, including damage control	Crouch (lowering height by bending knees) Kneel (placing knees on ground) Stoop (lowering height by bending at waist)	does not have any impairment or disease which could prevent his normal movement and physical activities

TABLE 3 – (continued)

Shipboard task, function, event or condition	Related physical ability	A medical examiner shall be satisfied that the candidate ^{4,5}
Emergency response procedures, including escape from smoke filled spaces	Crawl (the ability to move the body with hands and knees) Feel (the ability to handle or touch to examine or determine differences in temperature)	does not have any impairment or disease which could prevent his normal movement and physical activities
Stand a watch for a minimum 4 hours	Stand and walk for extended periods	is able to stand and walk for extended periods
Access between spaces; follow emergency response procedures	Work in constricted spaces and move through restricted openings (e.g. 60 cmx60 cm)	does not have any impairment or disease which could prevent his normal movement and physical activities
React to visual alarms, warnings and instructions; emergency response procedures	Distinguish an object or shape at a certain distance	fulfils the eyesight standards specified by the competent authority
React to audible alarms, warnings and instructions; emergency response procedures	Hear a specified dB sound at a specified frequency	fulfils the hearing capacity standards specified by the competent authority
Make verbal reports or call attention to suspicious or emergency conditions	Describe immediate surroundings and activities, and pronounce words clearly	is capable of normal conversation

Notes:

- 1 The above table describes —
 - (a) ordinary shipboard tasks, functions, events and conditions;
 - (b) a corresponding physical ability which is considered necessary for the safety of a seafarer who is living and working on board a ship at sea; and
 - (c) a guideline for measuring the corresponding physical ability. Administrations should take these physical abilities into account when establishing medical fitness standards.

- 2 This table is not intended to address all possible shipboard conditions or potentially disqualifying medical conditions; and it should, therefore, be used only as general guidance. Administrations should determine the categories of seafarers who are subject to an assessment of physical ability for service on seagoing ships, taking into account the nature of shipboard work for which they will be employed. For example, full application of these guidelines may not be appropriate in the case of entertainers who are not assigned duties on the muster list. Also, special circumstances surrounding individual cases as

well as any known risks of permitting the individual to be employed on board ship, and the extent to which a limited ability might be accommodated in a given situation, should be given full consideration.

- 3 The term "emergency response procedures" as used in this table is intended to cover all standard emergency response evolutions such as abandon ship and fire-fighting, as well as basic procedures to be followed by each seafarer to enhance his personal survival to avoid creating situations where special assistance from other crew members would be required.
- 4 The term "assistance" means the use of another person to accomplish the task.
- 5 If in doubt, the medical examiner should quantify the degree or severity of any disqualifying impairment by means of objective tests, whenever appropriate tests are available, or by referring the candidate for further assessment.
- 6 The International Labour Organisation Medical Examination (Seafarers) Convention, 1946 (No.73) provides, *inter alia*, that arrangements shall be made to enable a person who, after examination, has been refused a certificate to apply for a further examination by a medical referee or referees who shall be independent of any shipowner or of any organisation of shipowners or seafarers.

SECOND SCHEDULE

regulations 12(5), 13(2),
14(2), 15(2) and 24(7)

EXAMINATION AND CERTIFICATION RULES

ARRANGEMENT OF RULES

Rule

PART I

GENERAL

1. Application.
2. Classes of certificates.
3. Conditions of entry to examinations.
4. Examination procedures and exemptions.
5. Additional training requirements.
6. Special training requirements for personnel on certain types of ships.

PART II

DECK OFFICERS

7. Qualifying seagoing service.
8. Remission of seagoing service.
9. Master and deck officer examination syllabuses.
10. Examination subjects, structure and marking.
11. Minimum requirements for certification of master and deck officers.
12. Additional training requirements.

PART III

MARINE ENGINEER OFFICERS

13. Qualifying seagoing service.
14. Remission of seagoing service.
15. Types of marine engineer officer certificates of competency.
16. Initial training.
17. Examination subjects, structure and marking.
18. Examination procedures and exemptions.
19. Minimum requirements for certification of marine engineer officers.
20. Additional training requirements.

PART IV

RATINGS

21. Qualifying seagoing service.
22. Minimum qualifications for rating.
23. Minimum requirements for certification.
24. Qualifying service for eligibility to deck or engine certificates of competency.
25. Additional training requirements.

ANNEX 1 – EQUIVALENT CERTIFICATES TABLE

ANNEX 2 – PROGRESSION TABLE FOR DECK OFFICERS

ANNEX 3 – PROGRESSION TABLE FOR MARINE ENGINEER OFFICERS

ANNEX 4 – PROGRESSION TABLE FOR RATINGS

ANNEX 5 – SEAGOING SERVICE ALLOWANCES FOR SERVICE ON NON-TRADING SHIPS

ANNEX 6 – ADDITIONAL TRAINING REQUIREMENTS TABLE

ANNEX 7 – EXAMINATION SUBJECTS, STRUCTURE AND MARKING TABLE

SECOND SCHEDULE

EXAMINATION AND CERTIFICATION RULES

PART I

GENERAL

Application.

1. These Rules shall apply to —

- (a) any candidate who is a citizen of Brunei Darussalam;
- (b) any other candidate who is not a citizen of Brunei Darussalam and is permitted by the Director to be examined, assessed and certified under these Rules;
- (c) every Brunei Darussalam registered shipping company employing candidates specified in paragraphs (a) and (b), including the personnel engaged by such company for the purpose of imparting in-service training to candidates for certification, on board or ashore;
- (d) every training institute engaged in training maritime personnel for certification and every trainer engaged in such institutes; and
- (e) every assessor engaged in the assessment of any candidate for certification in any approved training institute, on board any ship or at an approved examination centre.

Classes of certificates.

Master and deck officers.

- 2. (1) (a) Officer in charge of a navigational watch on ships of 500 tons or more.
- (b) Chief mate on ships of 500 tons or more.
- (c) Master on ships of 500 tons or more.
- (d) Chief mate on ships of between 500 and 3,000 tons operating in near-coastal voyages.
- (e) Master on ships of between 500 and 3,000 tons operating in near-coastal voyages.

(f) Officer in charge of a navigational watch on ships of less than 500 tons operating in near-coastal voyages.

(g) Master on ships of 500 tons or less operating in near-coastal voyages.

Marine engineer officers.

(2) (a) Officer in charge of an engineering watch on ships powered by main propulsion machinery of 750 kW propulsion power or more.

(b) Second engineer on ships powered by main propulsion machinery of 3,000 kW propulsion power or more.

(c) Chief engineer on ships powered by main propulsion machinery of 3,000 kW propulsion power or more.

(d) Second engineer on ships powered by main propulsion machinery of between 750 kW and 3,000 kW propulsion power operating in near-coastal voyages.

(e) Chief engineer on ships powered by main propulsion machinery of between 750 kW and 3,000 kW propulsion power operating in near-coastal voyages.

Ratings.

(3) (a) Ratings forming part of a navigational watch.

(b) Ratings forming part of an engine room watch.

Equivalent Certificates Table.

(4) The Equivalent Certificates Table indicating the equivalency of the certificates listed under this rule with the certificates of competency in accordance with Chapters II and III of the Convention is listed in Annex 1.

Conditions of entry to examinations.

Applications for examinations.

3. (1) (a) Candidates intending to sit for either a part or for the whole of an examination for a certificate of competency must complete the application for examination form. Such application shall be made in such

form and manner and accompanied by such particulars as the Director may determine.

(b) Applicants shall return the completed form to the Examination Centre at least 15 days before the intended date of examination, together with —

- (i) the birth certificate or other documentary evidence of the date of birth;
- (ii) a proof of identity;
- (iii) a certificate of pre-sea training;
- (iv) an existing certificate of competency, if any;
- (v) the technical qualifications, if applicable;
- (vi) watchkeeping certificates, if applicable;
- (vii) the certificates of discharge;
- (viii) medical fitness certificate;
- (ix) any other additional qualification certificates, as applicable;
- (x) documentary proof of prerequisite qualifications (e.g. ancillary courses); and
- (xi) the application fee.

Proof of identity and age.

(2) Every candidate shall be required to produce proof of his identity and age. Any one of the following documents may be accepted as proof of age and identity —

- (a) national registration identity card;
- (b) birth certificate;
- (c) certificate of citizenship;
- (d) passport.

General provisions relating to seagoing service.

(3) (a) A candidate's eligibility for certification shall depend upon the amount and type of seagoing service performed and the type and area of operation of ships in which he is employed. A candidate cannot be considered for an assessment or examination unless he can provide proof of the full amount of seagoing service claimed. The minimum amount of approved seagoing service required for each grade of certificates of competency is set out in the Progression Tables in Annex 2, 3 and 4.

(b) To obtain remission of seagoing service, candidates must produce a duly completed approved Training and Assessment Record Book that incorporates the relevant standards of the Convention. Candidates shall record as fully as possible the work they have done on board the ship. All entries shall be verified by the master or other appropriate officers whenever possible.

Calculation of seagoing service.

General.

- (4) (a) (i) Qualifying seagoing service shall count from the commencement of a ship's voyage to the termination of such voyage. Where a ship is laid up in a port for a long period, that is, the ship has been laid up in a port for a period exceeding one-third of the total voyage period or for 4 weeks, whichever is less, such period shall not count towards qualifying seagoing service.
- (ii) Entries in the Seaman's Book or Training and Assessment Record Book shall constitute evidence of seagoing service. Any tampering with such entries shall disqualify a candidate from joining an approved post-sea education and training course.
- (iii) Where watchkeeping service of any officer includes doubled watches during a voyage, only two-thirds of the actual watchkeeping time so served shall count, subject to a maximum of 6 months qualifying seagoing service, example, 9 months watchkeeping service with doubled watches $\times \frac{2}{3} = 6$ months qualifying seagoing service.
- (iv) The qualifying seagoing service shall be reckoned by calendar months, that is, the time included between any given date in any month and the preceding day of the following month

inclusive. The number of completed months shall thus first be computed, after which the number of odd days be counted. When computing total seagoing service the odd days to be added together and calculated at 30 days a month.

- (v) A candidate joining an approved post-sea education and training course should have completed the requisite seagoing service not more than 9 months prior to joining the course.

Seagoing service on trading ships.

- (b) (i) Seagoing service performed on foreign-going trading ships of 500 tons or more and seagoing service performed on trading ships of 500 tons or more, operating in near-coastal voyages, shall be counted in full for the purpose of assessment of seagoing service for joining the appropriate approved post-sea education and training course.
- (ii) Seagoing service performed on a ship of 500 tons or more, operating in near-coastal voyages, shall count in full towards approved seagoing service for joining the relevant foreign-going post-sea education and training course, provided the voyage distance is more than 500 nautical miles. The voyage distance is to be calculated from the port of departure to the port of final destination. The candidate would be required to submit a declaration signed by the master of the ship or designated company training officer for the purpose of assessment of seagoing service.
- (iii) Seagoing service performed on a ship of 500 tons or more, operating in near-coastal voyages, shall be considered at the rate of two-thirds of corresponding seagoing service on a foreign-going ship, if the voyage distance is less than 500 nautical miles.

Seagoing service on non-trading ships.

(c) Seagoing service performed on non-trading ships is listed in Annex 5 and shall be assessed by the Examination Centre taking into account the following —

- (i) the type of ship;
- (ii) the gross tonnage of the ship;

- (iii) the sea area of operation;
- (iv) the length and duration of the voyage;
- (v) the actual period of stay in port and at sea;
- (vi) the nature of operations performed in port and at sea; and
- (vii) the nature of duties performed by the concerned officer beyond watchkeeping duties, if any.

Verification of seagoing service.

(5) (a) A candidate must record details accurately in the application for examination form, as eligibility for the examination shall depend on the amount of seagoing service performed and upon the seagoing ranks in which the candidate has served.

(b) A candidate shall not be admitted to the oral examination for all classes of certificates until he has completed the minimum period of seagoing service in an approved capacity required for that grade of examination.

(c) Seagoing service shall be verified through scrutiny of proper entries in the relevant Seaman's Book, certificates of discharge or other similar evidence relating to the service claimed.

(d) Where there are doubts about the seagoing service claimed or if it cannot be verified, the candidate would be required to submit a declaration signed by the master of the ship or designated company training officer for the purpose of assessment of seagoing service. The production of such proof may not necessarily be deemed sufficient.

Testimonials and watchkeeping certificates.

(6) (a) Testimonials for sea service as prescribed in the form listed in the Sixth Schedule for the qualifying seagoing service shall be required of all candidates. This testimonial shall be signed by the master or chief engineer and endorsed by the company's superintendent or a person of equivalent responsibility and shall state the seniority on watch, the type, deadweight, power of the propelling and auxiliary machinery, experience, ability, sobriety, conduct, and nature of duties performed.

(b) The testimonial for service as master must be signed by the company's superintendent or a person of equivalent responsibility in the company.

(c) Where the candidate has served as chief engineer, the master or a person of equivalent responsibility in the company shall sign the testimonial.

Medical fitness.

(7) (a) Every candidate must have —

- (i) passed the sight test conducted by the Marine Department or any approved medical examiner; and
- (ii) undergone a medical test conducted by an approved medical examiner and certified to be physically fit in accordance with the standards and guidelines specified in the Medical Examination Rules in the First Schedule.

(b) In the course of the examination, if the medical examiner finds that a candidate is afflicted with deafness, with impediment in speech or with some other physical or mental infirmity and is satisfied that the degree of infirmity is such as to render the candidate incapable of adequately discharging the ordinary seagoing duties of his rank, he shall report such case to the Director, who may retain that certificate, if the candidate is the holder of an existing certificate.

(c) If, subsequently, such a candidate as described in paragraph (b) produces a medical certificate to the effect that the particular handicap has been overcome or has improved or that the candidate's condition is now normal, the Director shall reconsider the candidate for medical examination or the return of any certificate retained.

(d) No candidate shall be issued with a certificate of competency without a valid certificate indicating success in the sight test. The Director may subject the candidate to a modified sight test when taking into account the circumstances in a particular case. If a candidate is accepted without production of a valid sight test certificate, the examination shall be cancelled if the candidate subsequently fails to pass the sight test. In such a case no refund of the examination fee shall be made. A certificate indicating a pass in sight test is valid for 24 months. Candidates may produce a valid medical fitness certificate referred to in paragraph (a)(ii), which includes sight test results.

(e) No revalidation of any certificate of competency or other certificate shall be issued until a valid medical fitness certificate is presented. Medical fitness may be proven by the production of a certificate of medical fitness issued by a medical examiner.

(f) All candidates for and holders of Brunei Darussalam certificates issued under these Regulations must hold a valid medical certificate, irrespective of the size of ship on which they are working or on which they intend to work.

(g) Any seafarer, whose certificate expires whilst in a location where an approved medical examination cannot be arranged, may continue to be employed without a valid medical fitness certificate for a period of 3 months from the date on which the certificate has expired.

Language for examination.

(8) Examinations for all classes of certificates shall be in the English language. Candidates for all classes of certificates must be able to speak and write in the English language sufficiently well. If a candidate fails through ignorance of the English language, he shall not be re-examined unless he shows evidence that his ability to speak and write in the English language has improved.

Issue of certificates.

(9) (a) A candidate who is successful in all parts of an examination as applicable, and who fulfils all the requirements for the issue of a certificate of competency or certificate of the class applied for, shall be issued with a certificate of competency or certificate of such class.

(b) A candidate who has passed all parts of the examination but who has not obtained the qualifications necessary to become eligible for the issue of a certificate of competency or other certificate shall be issued with a record of results of the examination. On submitting proof of obtaining the requisite qualifications and the record of results, the candidate shall be issued with the appropriate certificate.

(c) If, after passing an examination, it is discovered that a candidate's service is insufficient to entitle him to receive a certificate of competency or certificate of the class for which he has passed, a certificate of competency or certificate of that class shall not be issued to him. If the examiner is satisfied that the error in the calculation of the candidate's service did not occur through any fault or wilful misrepresentation on the part of the candidate, the certificate of competency or certificate of such class shall be issued when the candidate has made up the deficiency in the seagoing service.

Fees.

(10) (a) The appropriate fee for each class of certificate is prescribed in the Fifth Schedule.

(b) A candidate who fails to appear for any part of any examination at the appointed time shall be regarded as having failed by default in that part of the examination and the examination and the fee shall be forfeited.

(c) A candidate who wishes to postpone an examination, for which he has already made application, beyond one month from the date of the examination shall forfeit the examination fee and shall be required to re-submit his application and pay the prescribed fee as if it was a new application.

Examination procedures and exemptions.

Examination procedures and dates and places of examinations.

4. (1) (a) Candidates appearing for the written and oral examination must comply with the examination procedures approved by the Director.

(b) The dates upon which examinations are to be held in the following year shall be published annually in a Shipping Circular issued by the Director. Such Shipping Circular shall be made in such form as the Director may approve.

(c) Candidates for examination shall be informed, at the time of making the application, of the place and time at which the examination shall be held.

Preparatory training course.

(2) (a) A candidate appearing for the first time for the examination for deck officer, marine engineer officer or rating must have attended an appropriate preparatory training course of study at an institute approved by the Director.

(b) A candidate who has attended an approved preparatory training course abroad shall be admitted to an examination on the production of evidence of satisfactory completion of the course, subject to any other requirements specified by the Director.

(c) A candidate who fares poorly in any examination may be required to attend the full course again or attend tutorials in the particular subject or subjects as may be appropriate before being re-examined.

Rules to be observed during examination.

(3) (a) The examination shall begin on each day at a time appointed by the examiner. As far as possible candidates shall be given sufficient notice of the date and time of their oral examinations.

(b) Candidates appearing for the written and oral examination must follow the examination procedures. The procedures shall be given to the candidates before they appear for the examination.

(c) Candidates found guilty of misconduct shall be subject to the penalties under regulation 34.

Written examinations.

(4) (a) The holder of a certificate of competency may, at his option, sit the written part of the examination for the next higher class without producing evidence of further seagoing service or any additional qualification.

(b) A candidate must pass all subjects of the written examination before he shall be considered to have passed the written part of the examination. Candidates who have passed in part of the subjects in the written examination may be granted exemption on a subject for subject basis for the appropriate class of examination, subject to conditions specified by the Director.

Oral examinations.

(5) (a) A candidate for a certificate of competency is required to take an oral examination conducted by the Examination Centre. The examination is intended to ascertain a candidate's competence in the practical aspects of his duties.

(b) A candidate shall not be examined in the oral part of the examinations unless he has completed the period of seagoing service specified for the issue of the certificate for which he is to be examined.

(c) A candidate who fails in the oral examination for any certificate of competency through serious weakness in practical knowledge may, at the examiner's discretion, be given a time penalty not exceeding 6 months. The time penalty may include a requirement to complete a period of seagoing service or attend a tutorial course or both.

(d) A candidate who does not appear for an oral examination at the appointed time may be failed by default in the absence of reasonable proof that failure to attend was unavoidable.

(e) A candidate who passes in all the written subjects except the oral examination for any class of certificate shall be allowed to take the oral examination before the next scheduled examination. Such a candidate shall apply for his oral examination as soon as he is notified of his result.

Exemptions and re-sitting.

(6) (a) A candidate who is successful in any subject, including orals, shall not be required to re-sit that subject at a subsequent attempt, if attempted within one year of the date of passing.

(b) A candidate shall be expected to obtain a minimum number of marks in each subject in the written examinations and not less than one-half of the total number of marks to secure a pass. In the oral examination a higher standard shall be required.

(c) A candidate who fails in any part of the examination may present himself for re-examination at any subsequent examination, subject to paragraphs (d) and (e).

(d) A candidate who fails in all the subjects of an examination at his second subsequent attempt may not be allowed a further attempt for a period not exceeding 6 months as may be decided by the examiner. This restriction shall not apply to candidates who have to re-sit only one written paper or who fail in the oral examination.

(e) A candidate shall not be accepted for re-examination if he shows gross ignorance of any subject which is vital to an officer's duties, that if neglected could lead to acts or omissions whereby life, the ship or the environment is endangered. At the discretion of the examiner, he shall be required to perform a further period of seagoing service of not more than 12 months before being accepted for re-examination.

Additional training requirements.

(Refer to Annex 6 for application of additional training requirements).

Basic safety training.

5. (1) (a) All persons employed or engaged on a seagoing ship, other than passengers, shall, before being assigned to shipboard duties, receive

approved familiarisation training and instructions in accordance with paragraph 1 of section A-VI/1 of the STCW Code and set out in rule 19 of the Training and Assessment Rules in the Third Schedule and shall meet the appropriate standard of competence specified therein.

(b) Seafarers employed or engaged in any capacity on board ship, as part of the ship's complement with designated safety or pollution prevention duties in the operation of the ship shall, before being assigned to any shipboard duties, receive appropriate approved basic training or instructions in —

- (i) personal survival techniques as set out in Table A-VI/1-1 of the STCW Code and rule 19 of the Training and Assessment Rules in the Third Schedule;
- (ii) fire prevention and fire-fighting as set out in Table A-VI/1-2 of the STCW Code and rule 19 of the Training and Assessment Rules in the Third Schedule;
- (iii) elementary first aid as set out in Table A-VI/1-3 of the STCW Code and rule 19 of the Training and Assessment Rules in the Third Schedule; and
- (iv) personal safety and social responsibilities as set out in Table A-VI/1-4 of the STCW Code and rule 19 of the Training and Assessment Rules in the Third Schedule.

(c) On satisfactory completion of each of the approved basic safety training, an appropriate certificate as shown in the Sixth Schedule shall be issued to the seafarer. The validity of such certificate is not limited.

Proficiency in medical first aid.

(2) (a) Seafarers designated to provide medical first aid on board ship shall complete an approved training programme and meet the standard of competence in medical first aid specified in paragraphs 1, 2 and 3 of section A-VI/4 of the STCW Code and as set out in rule 26 of the Training and Assessment Rules in the Third Schedule.

(b) Seafarers shall be issued with an appropriate certificate, as shown in the Sixth Schedule, on satisfactory completion of the approved training course and demonstration of competence to undertake the tasks, duties and responsibilities. The validity of such certificate is not limited.

Medical care on board ship certificate.

(3) (a) Seafarers designated to take charge of medical care on board ship shall meet the standard of competence in medical care on board ship specified in paragraphs 4, 5 and 6 of section A-VI/4 of the STCW Code and set out in rule 27 of the Training and Assessment Rules in the Third Schedule.

(b) Seafarers shall be issued with an appropriate certificate, as shown in the Sixth Schedule, on satisfactory completion of the approved training course and demonstration of competence to undertake the tasks, duties and responsibilities. The validity of such certificate is not limited.

Minimum requirements for training in advanced fire-fighting.

(4) (a) Seafarers designated to control fire-fighting operations shall have successfully completed advanced training in techniques for fighting fire with particular emphasis on organisation, tactics and command in accordance with the provisions of section A-VI/3 of the STCW Code and set out in rule 25 of the Training and Assessment Rules in the Third Schedule, and shall meet the standard of competence specified therein.

(b) Seafarers shall be issued with an appropriate certificate, as shown in the Sixth Schedule, on satisfactory completion of the approved training course and demonstration of competence to undertake the tasks, duties and responsibilities. The validity of such certificate is not limited.

Minimum requirements for issue of certificates of proficiency in survival craft, rescue boats and fast rescue boats.

(5) (a) Every candidate for a certificate of proficiency in survival craft and rescue boats, other than fast rescue boats, shall —

- (i) be not less than 18 years of age on the last date prescribed for receipt of application;
- (ii) have approved seagoing service of not less than one year or have attended an approved training course and have approved seagoing service of not less than 6 months;
- (iii) attend an approved training course and meet the standard of competence for certificates of proficiency in survival craft and rescue boats set out in paragraphs 1, 2, 3 and 4 of section A-VI/2 of the STCW Code and rule 23 of the Training and Assessment Rules in the Third Schedule; and

- (iv) be issued with an appropriate certificate, as shown in the Sixth Schedule, on satisfactory completion of the approved training course and demonstration of competence to undertake the tasks, duties and responsibilities. The validity of such certificate is not limited.
- (b) Every candidate for a certificate of proficiency in fast rescue boats shall —
- (i) be the holder of a certificate of proficiency in survival craft and rescue boats;
 - (ii) have attended an approved training course;
 - (iii) meet the standard of competence for certificates of proficiency in fast rescue boats set out in paragraphs 5, 6, 7 and 8 of section A-VI/2 of the STCW Code and rule 24 of the Training and Assessment Rules in the Third Schedule; and
 - (iv) be issued with an appropriate certificate, as shown in the Sixth Schedule, on satisfactory completion of the approved training course and demonstration of competence to undertake the tasks, duties and responsibilities. The validity of such certificate is not limited.

Electronic navigation systems certificate.

(6) (a) An electronic navigation systems course shall be conducted in accordance with the appropriate standard of competence specified in section A-II/1 of the STCW Code. The validity of the electronic navigation systems certificate is not limited.

(b) A radar observer certificate and electronic navigational aids certificate may together be accepted in lieu of an electronic navigation systems certificate.

(c) GMDSS - General Operator's certificate of competency issued in accordance with section A-IV/2 of the STCW Code and set out in rule 13 of the Training and Assessment Rules in the Third Schedule shall be accepted.

Navigation control course certificate.

(7) A navigation control course shall be conducted in accordance with the appropriate standard of competence specified in section A-II/2 of the STCW Code. The validity of the navigation control course certificate is not limited.

Oil, chemical and liquefied gas tanker familiarisation course certificate.

(8) An oil, chemical and liquefied gas tanker familiarisation course certificate issued in accordance with paragraphs 2 to 7 of section A-V/1 of the STCW Code and set out in rule 20 of the Training and Assessment Rules in the Third Schedule shall be accepted. The validity of such certificate is not limited.

Special training requirements for personnel on certain types of ships.

Minimum requirements for training and qualifications of masters, officers and ratings on tankers.

6. (1) (a) Officers and ratings assigned specific duties and responsibilities relating to cargo or cargo equipment on tankers —
- (i) shall have completed an approved shore-based fire-fighting course;
 - (ii) shall have completed —
 - (A) at least 90 days of approved seagoing service on tankers in order to acquire adequate knowledge of safe operational practices; or
 - (B) an approved tanker familiarisation course covering at least the syllabus given for that course in section A-V/1 of the STCW Code and set out in rule 20 of the Training and Assessment Rules in the Third Schedule; and
 - (iii) be issued with an appropriate certificate, as shown in the Sixth Schedule, on satisfactory completion of the approved training course and demonstration of competence to undertake the tasks, duties and responsibilities.
- (b) Masters, chief engineer officers, chief mates, second engineer officers and any person with immediate responsibility for loading, discharging and care in transit or handling of cargo shall, in addition to the requirements mentioned in paragraph (a) —
- (i) have at least 90 days experience appropriate to their duties on the type of tanker on which they serve;
 - (ii) have completed an approved specialised training programme which at least covers the subjects set out in section A-V/1 of the STCW Code and set out in rule 20 of the Training and Assessment Rules in the Third Schedule that are appropriate

to their duties on the oil tanker, chemical tanker or liquefied gas tanker on which they serve; and

- (iii) be issued with an appropriate certificate, as shown in the Sixth Schedule, on satisfactory completion of the approved training course and demonstration of competence to undertake the tasks, duties and responsibilities.

(c) Masters and officers qualified under this sub-rule shall present their certificate of competency to the examiner concerned, and obtain an endorsement for service on oil tanker, chemical tanker or liquefied gas tanker, as appropriate.

(d) The validity of the certificates mentioned in paragraphs (a) and (b) are not limited.

Minimum requirements for training and qualifications of masters, officers, ratings and other personnel on ro-ro passenger ships.

(2) (a) Masters, officers and ratings and other personnel serving on board ro-ro passenger ships, prior to being assigned shipboard duties, shall have completed the relevant training in accordance with their capacity, duties and responsibilities.

(b) Masters, officers and other personnel designated on muster lists to assist passengers in emergency situations on board ro-ro passenger ships shall have completed training in crowd management as specified in paragraph 1 of section A-V/2 of the STCW Code and set out in sub-rule (1) of rule 21 of the Training and Assessment Rules in the Third Schedule.

(c) Masters, officers and other personnel assigned specific duties and responsibilities on board ro-ro passenger ships shall have completed the familiarisation training as specified in paragraph 2 of section A-V/2 of the STCW Code and set out in sub-rule (2) of rule 21 of the Training and Assessment Rules in the Third Schedule.

(d) Personnel providing direct service to passengers in passenger spaces on board ro-ro passenger ships shall have completed the safety training as specified in paragraph 3 of section A-V/2 of the STCW Code and set out in sub-rule (3) of rule 21 of the Training and Assessment Rules in the Third Schedule.

(e) Masters, chief mates, chief engineer officers, second engineer officers and every person assigned immediate responsibility for embarking and disembarking passengers, loading, discharging or securing cargo or closing hull openings on board ro-ro passenger ships shall have completed

approved training in passenger safety, cargo safety and hull integrity as specified in paragraph 4 of section A-V/2 of the STCW Code and set out in sub-rule (4) of rule 21 of the Training and Assessment Rules in the Third Schedule.

(f) Masters, chief mates, chief engineer officers, second engineer officers and any person having responsibility for the safety of passengers in emergency situations on board ro-ro passenger ships shall have completed approved training in crisis management and human behaviour as specified in paragraph 5 of section A-V/2 of the STCW Code and set out in sub-rule (4) of rule 21 of the Training and Assessment Rules in the Third Schedule.

(g) Masters, officers, ratings and other personnel serving on board ro-ro passenger ships shall, on satisfactory completion of approved relevant training in crowd management, familiarisation, safety, passenger safety, cargo safety and hull integrity, crisis management and human behaviour, be issued with an appropriate certificate as shown in the Sixth Schedule.

(h) Masters, chief mates, chief engineer officers and second engineer officers qualified under this sub-rule and hold an appropriate certificate shall present their certificate of competency to the examiner concerned, and obtain an endorsement for service on ro-ro passenger ships.

(i) Seafarers who are required to be trained in accordance with paragraphs (b), (c), (d), (e) and (f) shall, at intervals not exceeding 5 years, undertake appropriate refresher training.

Minimum requirements for training and qualifications of masters, officers, ratings and other personnel on passenger ships other than ro-ro passenger ships.

(3) (a) Masters, officers and ratings and other personnel serving on board passenger ships, other than ro-ro passenger ships, prior to being assigned shipboard duties, shall have completed the relevant training in accordance with their capacity, duties and responsibilities.

(b) Masters, officers and other personnel designated on muster lists to assist passengers in emergency situations on board passenger ships shall have completed training in crowd management as specified in paragraph 1 of section A-V/2 of the STCW Code and set out in sub-rule (1) of rule 22 of the Training and Assessment Rules in the Third Schedule.

(c) Masters, officers and other personnel assigned specific duties and responsibilities on board passenger ships shall have completed the familiarisation training as specified in paragraph 2 of section A-V/2 of the STCW Code and set out in sub-rule (2) of rule 22 of the Training and Assessment Rules in the Third Schedule.

(d) Personnel providing direct service to passengers in passenger spaces on board passenger ships shall have completed the safety training as specified in paragraph 3 of section A-V/2 of the STCW Code and set out in sub-rule (3) of rule 22 of the Training and Assessment Rules in the Third Schedule.

(e) Masters, chief mates and every person assigned immediate responsibility for embarking and disembarking passengers shall have completed training in passenger safety as specified in paragraph 4 of section A-V/2 of the STCW Code and set out in sub-rule (4) of rule 22 of the Training and Assessment Rules in the Third Schedule.

(f) Masters, chief mates, chief engineer officers, second engineer officers and any person having responsibility for the safety of passengers in emergency situations on board passenger ships shall have completed approved training in crisis management and human behaviour as specified in paragraph 5 of section A-V/2 of the STCW Code and set out in sub-rule (5) of rule 22 of the Training and Assessment Rules in the Third Schedule.

(g) Masters, officers, seamen, ratings and other personnel serving on board passenger ships shall, on satisfactory completion of approved relevant training in crowd management, familiarisation, safety, passenger safety, crisis management and human behaviour, be issued with an appropriate certificate, as shown in the Sixth Schedule.

(h) Masters, chief mates, chief engineer officers and second engineer officers qualified under this sub-rule and hold an appropriate certificate shall present their certificate of competency to the examiner concerned, and obtain an endorsement for service on passenger ships.

(i) The validity of such certificate is not limited.

PART II

DECK OFFICERS

Qualifying seagoing service.

7. (1) Guidelines for the qualifying seagoing service specified for any deck officers' certificate of competency are as follows —

(a) it must be performed in the Deck Department;

(b) it must be calculated from the date of engagement to the date of discharge (both days inclusive);

(c) at least 6 months of the qualifying seagoing service must have been performed within the 5 years preceding the application for the examination, unless the examiner in his discretion allows otherwise;

(d) a portion of certain kinds of non-trading ships or limitations may be imposed on the certificate;

(e) non-trading service not specially provided for in these Regulations shall not be accepted as qualifying service.

(2) Officer in charge of a navigational watch and chief mate-NCV candidates require —

(a) a statement to be produced from their employers, or the master under whom they have served, that at least 6 of the last 12 months of their seagoing service have been spent on bridge watchkeeping duties under the supervision of the master or a qualified officer;

(b) that the duties may include keeping a look-out on the bridge or acting as helmsman but these tasks shall not normally exceed 2 months out of the required 6 months.

(3) Where watchkeeping service is required for other certificates, candidates must provide proof of having served as watchkeeping officers for not less than 8 hours out of every 24 hours service claimed.

(4) Every deck cadet or trainee deck officer —

(a) must produce evidence that an approved training programme has been followed throughout the specified period of seagoing service; and that all service while on board ship was performed in a satisfactory manner; and

(b) who fails to produce satisfactory evidence that he has followed a training programme approved by or acceptable to the Director may be required to complete an additional period of seagoing service before being considered eligible for a certificate of competency.

Seagoing service on near-coastal voyage ships.

(5) The equivalent rates of seagoing service on near-coastal voyage ships for admission to examinations for chief mate-NCV and master-NCV certificates are as follows —

(a) in the case of service where the most distant ports visited are at least 500 miles apart, the time shall count in full; or

(b) in any other case, the service shall count at two-thirds rate.

Service on non-trading ships.

(6) Although the Convention defines seagoing service as time spent on board a ship relevant to the issue of a certificate or other qualification, service on non-trading ships may be approved as part of the required qualifying seagoing service. Alternatively, the certificate of competency shall be limited, either temporarily or permanently, for service on certain types of ships or trades. The allowances for service on non-trading ships against the seagoing service required for the issue of a certificate of competency are given in Annex 5.

Remission of seagoing service.

8. (1) A candidate for a master certificate of competency may be granted remission of seagoing service equivalent to one-half of any time in the rank of chief mate or master (near-coastal voyage below 500 tons) while holding a chief mate certificate of competency, up to a maximum of 12 months actual service in that rank.

(2) A candidate for a chief mate certificate of competency may be granted remission of seagoing service equivalent to one-half of any time served in the rank of chief mate or master (near-coastal voyage below 500 tons) while holding a certificate not lower than an officer in charge of a navigational watch certificate of competency, up to a maximum of 12 months actual service in that rank.

(3) A candidate for an officer in charge of a navigational watch certificate of competency who has satisfactorily completed the Diploma in Maritime Transportation course or a Diploma in Nautical Studies course at an approved institute and has been successful in the final examinations, may be granted up to a maximum of 24 months remission from the seagoing service requirement for that certificate; the period being at the discretion of the Director.

(4) The amount of remission of seagoing service to be given to candidates for an officer in charge of a navigational watch certificate of competency, upon satisfactory completion of training schemes conducted by other establishments, shall be determined on the merits of such schemes.

(5) Any candidate for an officer in charge of a navigational watch and chief mate-NCV examination who has satisfactorily completed an approved Training and Assessment Record Book programme may be granted remission from the seagoing service up to a maximum of 12 months for that certificate.

(6) No remission of seagoing service shall be allowed in respect of the period of at least 6 months required to be spent on duties associated with bridge

watchkeeping during the required seagoing service as required by paragraph (a) of sub-rule (2) of rule 7.

Master and deck officer examination syllabuses.

9. (1) The examination syllabuses for master and deck officer certificates of competency —

(a) shall be specified by the Director; and

(b) shall comply with the standards and provisions of the Convention.

(2) The criteria for appropriate certificates, examination structure and marking are as follows —

(a) certificates of competency are obtainable only by assessment and examinations consisting of practical, written and oral components. Candidates shall be assessed to ensure they meet the standards of competence required by the Convention; and

(b) the examinations are divided into parts. The different parts may be taken together or separately. To pass in the written part, a candidate must obtain the appropriate percentage in the subjects shown in Annex 7.

Examination subjects, structure and marking.

10. The examination subjects, structure and marking for candidates appearing for examination to qualify as deck officers are set out in Annex 7.

Minimum requirements for certification of master and deck officers.

Officer in charge of a navigational watch on ships of 500 tons or more.

11. (1) (a) Every officer in charge of a navigational watch serving on a seagoing ship of 500 tons or more shall hold an appropriate certificate.

(b) No candidate shall qualify for the certification unless he —

(i) is at least 18 years of age on the last date prescribed for receipt of application;

(ii) has approved seagoing service of not less than one year as part of an approved training programme which includes on-board training which meets the requirements of section A-II/1 of the STCW Code and is documented in an approved training

record book for assessment, or has approved seagoing service for a period of not less than 3 years;

- (iii) has performed bridge watchkeeping duties for a period of not less than 6 months during the required seagoing service under the supervision of the master or a qualified officer;
- (iv) meets the applicable requirements of Chapter IV of the STCW Code, for performing designated radio duties in accordance with the Radio Regulations; or
- (v) has completed approved education and training, and meets the standard of competence as specified in section A-II/1 of the STCW Code and set out in rule 9 of the Training and Assessment Rules in the Third Schedule.

Chief mate on ships of 500 tons or more.

(2) (a) Every chief mate on a seagoing ship of 500 tons or more shall hold an appropriate certificate.

(b) No candidate shall qualify for the certification unless he —

- (i) meets the requirements for certification as officer in charge of a navigational watch on ships of 500 tons or more;
- (ii) has approved seagoing service as an officer in charge of a navigational watch on ships of 500 tons or more, for a period of not less than 12 months; or
- (iii) has completed approved education and training, and meets the standard of competence as specified in section A-II/2 of the STCW Code for chief mates and set out in rule 10 of the Training and Assessment Rules in the Third Schedule.

Master on ships of 500 tons or more.

(3) (a) Every master on a seagoing ship of 500 tons or more shall hold an appropriate certificate.

(b) No candidate shall qualify for the certification unless he —

- (i) meets the requirements for certification as officer in charge of a navigational watch on ships of 500 tons or more;

- (ii) has approved seagoing service as an officer in charge of a navigational watch on ships of 500 tons or more, for a period of not less than 36 months; this period may be reduced to not less than 24 months, if not less than 12 months of such seagoing service has been served as chief mate; or
- (iii) has completed approved education and training, and meets the standard of competence as specified in section A-II/2 of the STCW Code for masters and as set out in rule 10 of the Training and Assessment Rules in the Third Schedule.

Chief mate on ships of between 500 and 3,000 tons operating in near-coastal voyages.

(4) (a) Every chief mate on a seagoing ship of between 500 and 3,000 tons operating in near-coastal voyages shall hold an appropriate certificate.

(b) No candidate shall qualify for the certification unless he —

- (i) meets the requirements for certification as an officer in charge of a navigational watch on ships of 500 tons or more;
- (ii) has approved seagoing service as an officer in charge of a navigational watch on ships of 500 tons or more, for a period of not less than 12 months; or
- (iii) has completed approved education and training, and meets the standard of competence as specified by the Director for chief mates on seagoing ships of between 500 and 3,000 tons operating in near-coastal voyages as set out in rule 11 of the Training and Assessment Rules in the Third Schedule.

Master on ships of between 500 and 3,000 tons operating in near-coastal voyages.

(5) (a) Every master on a seagoing ship of between 500 and 3,000 tons operating in near-coastal voyages shall hold an appropriate certificate.

(b) No candidate shall qualify for the certification unless he —

- (i) holds a certificate of competency as officer in charge of a navigational watch on ships of 500 tons or more;
- (ii) has approved seagoing service as an officer in charge of a navigational watch on ships of 500 tons or more, for a period of not less than 36 months; this period may be reduced to not less than 24 months, if not less than 12 months of such seagoing service has been served as chief mate; or

- (iii) has completed approved education and training, and meets the standard of competence as specified by the Director for masters on seagoing ships of between 500 and 3,000 tons operating in near-coastal voyages as set out in rule 11 of the Training and Assessment Rules in the Third Schedule.

Officer in charge of a navigational watch on ships of less than 500 tons operating in near-coastal voyages.

(6) (a) Every officer in charge of a navigational watch serving on a seagoing ship of less than 500 tons operating in near-coastal voyages shall hold an appropriate certificate.

- (b) No candidate shall qualify for the certification unless he —
 - (i) is at least 18 years of age on the last date prescribed for receipt of application;
 - (ii) has completed special training including an adequate period of seagoing service as specified by the Director;
 - (iii) has approved seagoing service for a period of not less than 3 years;
 - (iv) meets the applicable requirements of Chapter IV of the STCW Code, for performing designated radio duties in accordance with the Radio Regulations; or
 - (v) has completed approved education and training, and meets the standard of competence as specified in section A-II/3 of the STCW Code for officers in charge of a navigational watch serving on ships of less than 500 tons operating in near-coastal voyages and as set out in rule 12 of the Training and Assessment Rules in the Third Schedule.

Master on ships of less than 500 tons operating in near-coastal voyages.

(7) (a) Every master serving on a seagoing ship of less than 500 tons operating in near-coastal voyages shall hold an appropriate certificate.

- (b) No candidate shall qualify for the certification unless he —
 - (i) is at least 20 years of age on the last date prescribed for receipt of application;

- (ii) has approved seagoing service for a period of not less than 12 months as an officer in charge of a navigational watch; or
- (iii) has completed approved education and training, and meets the standard of competence as specified in section A-II/3 of the STCW Code for masters on ships of less than 500 tons operating in near-coastal voyages and as set out in rule 12 of the Training and Assessment Rules in the Third Schedule.

GMDSS Operator.

(8) (a) Every person in charge of or performing radio duties on a ship required to participate in the Global Maritime Distress and Safety System shall hold an appropriate certificate.

(b) No candidate shall qualify for the certification unless he —

- (i) is at least 18 years of age on the last date prescribed for receipt of application; or
- (ii) has attended an approved GMDSS General Operator's course, and meets the standard of competence as specified in section A-IV/2 of the STCW Code and as set out in rule 13 of the Training and Assessment Rules in the Third Schedule.

Additional training requirements.

12. The additional training requirements for deck officers are listed in Annex 6.

PART III

MARINE ENGINEER OFFICERS

Qualifying seagoing service.

13. (1) Guidelines for the qualifying seagoing service specified for any marine engineer officers' certificate of competency are as follows —

- (a) it must be performed in the Engine Department;
- (b) it must be calculated from the date of engagement to the date of discharge (both days inclusive);

(c) at least 6 months of the qualifying seagoing service must have been performed within the 5 years preceding the application for the examination, unless the examiner in his discretion allows otherwise;

(d) a portion of certain kinds of non-trading ships or limitations may be imposed on the certificate;

(e) generally non-trading service not specially provided for in these Regulations shall not be accepted as qualifying service;

(f) when whole or part of the seagoing service has been performed on ships that have not been underway for a continuous period of 2 months, a statement from the owners or managers of the ship must be produced stating the time in days actually spent underway. In such circumstances, the time spent underway may be accepted at one and a half rate but in no case can it exceed the actual time spent on board ship;

(g) seagoing service performed by marine engineer officers serving on ships employing work practices other than the traditional 8 hours watch-keeping routine may be accepted as qualifying seagoing service, if the Director is satisfied that such work practices provide a reasonably balanced system of service. Seagoing service falling within the scope of this paragraph shall be assessed according to the general principles stipulated in paragraphs (h), (i), (j) and (k);

(h) when a marine engineer officer is in sole charge of periodically unattended machinery spaces for a period of 24 hours, the time so spent on such "on call" watchkeeping may be accepted at one and a half rate, the remainder of the time on service on board being considered as day work and allowed to count towards qualifying seagoing service as detailed in paragraph (k). The total seagoing service accepted under these conditions shall be either that calculated in accordance with this paragraph or the time actually spent on board ship, whichever is less;

(i) seagoing service in ships where the duties are those not usually performed by a watchkeeping engineer is not acceptable. The examiner may consider cases where such work is considered pertinent to the operational experience of a marine engineer officer. In such cases, the examiner may accept the seagoing service up to a maximum of 4½ months for second engineer and chief engineer certificate of competency and 3 months for officer in charge of an engineering watch certificate of competency. Such seagoing service shall not be counted towards the minimum seagoing service required to be spent on the boilers and main propelling machinery of a steam ship or on the main propelling machinery of a motor ship;

(j) work on auxiliary machinery essential to the running of the main propelling machinery shall count in full towards qualifying seagoing service,

subject to a maximum limit of 9 months for chief engineer and second engineer certificate of competency and 6 months for officer in charge of an engineering watch certificate of competency. Work on auxiliary machinery which runs independently of the main propelling machinery shall count at half rate, to a maximum limit of 9 months for chief engineer and second engineer certificate of competency and 6 months for officer in charge of an engineering watch certificate of competency. Such service shall not be accepted towards the seagoing service required for combined certificates (steam and motor);

(k) engineering work within the engine or boiler spaces of a steam ship or motor ship at sea, other than that performed on regular watch, shall be counted in full up to a maximum of 3 months towards the qualifying seagoing service for officer in charge of an engineering watch certificate of competency, and up to a maximum of 4½ months towards the qualifying seagoing service for chief engineer and second engineer certificate of competency. Day work in ships with unattended machinery spaces shall be counted up to a maximum of 6 months for officer in charge of an engineering watch certificate of competency, and 9 months for chief engineer and second engineer certificate of competency;

(l) when a candidate is certified by a registered medical practitioner to be suffering from any physical or mental disability which might interfere with the proper performance of his duties as a marine engineer, the signatories to his testimonials shall state whether such disability did in fact interfere in any way with the efficient discharge of his duties as an engineer on board ship;

(m) proof of seagoing service of persons serving in foreign ships must be confirmed by the master and either by the consul or recognised official of foreign country or territory or by a person in a responsible position having personal knowledge of the facts to be established. The production of such proof may not necessarily be deemed sufficient;

(n) the candidate's qualifying seagoing service as shown by his certificate of discharge and testimonials shall be calculated in accordance with sub-rule (4) of rule 3;

(o) information on the progression to each level of certification is given in Annex 3.

(2) Officer in charge of an engineering watch and second engineer-NCV candidates require —

(a) a statement to be produced from their employers, or the chief engineer under whom they have served, that at least 6 of the last 12 months of their seagoing service have been spent on engine room watchkeeping

duties under the supervision of the chief engineer or a qualified marine engineer officer;

(b) that these duties may include keeping an engine room watch in the engine room under the supervision of a qualified marine engineer officer, but these tasks shall not normally exceed 2 months out of the required 6 months.

(3) Candidates must provide proof of having served as watchkeeping officers for not less than 8 hours out of every 24 hours service claimed in cases where watchkeeping service is required for other certificates.

(4) Every engine cadet or trainee marine engineer officer —

(a) must produce evidence that an approved training programme has been followed throughout the specified period of seagoing service; and that all service while on board ship was performed in a satisfactory manner; and

(b) who fails to produce satisfactory evidence that he has followed a training programme approved by or acceptable to the Director may be required to complete an additional period of seagoing service before being considered eligible for a certificate of competency.

(5) Seagoing service as rating on board a seagoing ship —

(a) shall count as qualifying service at two-thirds rate for examinations for second engineer-NCV, provided that a certificate from the chief engineer of the ship is produced to show that sufficient duties in the engine room have been performed;

(b) must include the requirement of 6 months engine room watch-keeping duties; and

(c) must produce evidence that at least 12 months of their seagoing service have been spent on seagoing ships trading between locations which are more than 500 miles apart or on ships engaged in foreign-going or near-coastal voyages.

Remission of seagoing service.

14. (1) The equivalent rates of seagoing service on near-coastal voyage ships for admission to examinations for chief engineer and second engineer certificate of competency are as follows —

(a) in the case of service where the most distant ports visited are at least 500 miles apart, the time shall count in full; or

(b) in any other case, the service shall count at two-thirds rate.

(2) A candidate for a chief engineer certificate may be granted remission of seagoing service equivalent to one-half of any time in the rank of second engineer or chief engineer (near-coastal voyage below 500 tons) while holding a second engineer certificate, up to a maximum of 12 months actual service in that rank.

(3) A candidate for a chief engineer-NCV certificate may be granted remission of seagoing service equivalent to one-half of any time served in the rank of second engineer or chief engineer (near-coastal voyage below 500 tons) while holding a certificate not lower than a second engineer-NCV certificate, up to a maximum of 12 months actual service in that rank.

(4) The amount of remission of seagoing service to be given to candidates for a second engineer-NCV certificate, upon satisfactory completion of training schemes conducted by other establishments, shall be determined on the merits of such schemes.

(5) No remission of seagoing service shall be allowed in respect of the period of at least 6 months required to be spent on duties associated with engine room watchkeeping during the required seagoing service.

Types of marine engineer officer certificates of competency.

15. Marine engineer officer certificates of competency for all classes shall be issued for —

(a) steam which qualifies the holders to serve as marine engineer officers in the classes certified for steam ships, that is, ships propelled by steam engines or steam turbines;

(b) motor which qualifies the holders to serve as marine engineer officers in the classes certified for motor ships, that is, ships propelled by internal combustion engines, reciprocating engines or gas turbines; or

(c) combined (steam and motor) which qualifies the holders to serve as marine engineer officers in the classes certified for both steam ships and motor ships.

Initial training.

Approved courses in marine engineering.

16. (1) (a) Each such candidate must have satisfactorily completed one of the approved training courses conducted by any of the institutes approved by the Marine Department.

(b) The total period of training shall not be less than 36 months.

(c) During the period of seagoing service, the work assignments and practical tasks set out in the approved marine engineer's Training and Assessment Record Book must be satisfactorily completed.

(d) It is the responsibility of the chief engineer and appropriate senior officers to complete the relevant sections when they are satisfied that the tasks therein have been properly carried out.

(e) Candidates who have completed similar courses outside Brunei Darussalam may be accepted, provided they can satisfy the Director of the suitability of the courses taken.

Candidates with tertiary qualifications.

(2) (a) The total period of training shall not be less than 30 months.

(b) Every candidate must have satisfactorily completed a course of study leading to a recognised degree or diploma or equivalent qualification in marine, mechanical, production, or electrical engineering or in a related discipline or in naval architecture or in shipbuilding, repair technology and offshore engineering.

(c) In addition, the candidate must have received training in the use of tools and general engineering craft practice relevant to the duties of a marine engineer for a period specified by the Director.

(d) Such training received during the degree or diploma courses may be considered on a case by case basis. Any deficiency in training can be made good by compensatory qualifying seagoing service as an assistant engineer.

(e) A candidate who has obtained a degree or diploma or an equivalent qualification from a country or territory that is on the "white list" may be recognised by the Director.

(f) A degree or diploma or an equivalent qualification obtained in a non-"white list" country or territory may be accepted on a case by case basis if the Director is satisfied with the suitability of the courses taken to obtain each qualification.

(g) For the purposes of this rule, "white list" means parties to the Convention, confirmed by the Maritime Safety Committee of the IMO to have communicated information which demonstrates that full and complete effect is given to the relevant provisions of the Convention.

Other qualifications and training.

(3) (a) The Director may accept a candidate who has other qualifications and training not inferior to those specified in sub-rules (1) and (2), as complying with the initial training requirements on a case by case basis, if he is satisfied with the suitability of the courses taken to obtain each qualification.

Service on non-trading ships.

(b) Service on non-trading ships may be approved as part of the required qualifying seagoing service to the issue of a certificate or other qualification. Alternatively, the certificate of competency shall be limited, either temporarily or permanently, for service on certain types of ships or trades. The allowances for service on non-trading ship against the seagoing service required for the issue of a certificate of competency are given in Annex 5.

Examination subjects, structure and marking.

17. The examination subjects, structure and marking for candidates appearing for examination to qualify as marine engineer officers are set out in Annex 7.

Examination procedures and exemptions.

18. (1) Candidates appearing for the written and oral examination must comply with the examination procedures approved by the Director.

(2) Syllabuses for the chief engineer and second engineer written examinations have been consolidated into one set so that all written examination work shall be completed at the second engineer stage. The examination for a chief engineer (chief engineer officer on ships powered by main propulsion machinery of 3,000 kW propulsion power or more) certificate of competency shall therefore consist of the oral part only.

(3) The syllabuses for the chief engineer-NCV and second engineer-NCV written examinations have been consolidated into one so that all written examination work shall be completed at the second engineer-NCV stage. The examination for a chief engineer-NCV (chief engineer officer on ships powered by main propulsion machinery of 3,000 kW propulsion power or more, operating in near-coastal voyages) certificate of competency shall therefore consist of the oral part only.

(4) A candidate appearing for the examination for a chief engineer certificate of competency may be exempted from the written part of the examination if he has passed the written part of the second engineer and chief engineer (combined) examination.

(5) A candidate appearing for the examination for a chief engineer-NCV certificate of competency may be exempted from the written part of the examination if he has passed the written part of the second engineer-NCV and chief engineer-NCV (combined) examination.

Minimum requirements for certification of marine engineer officers.

Officer in charge of an engineering watch in manned engine room or designated duty engineer in periodically unmanned engine room.

19. (1) (a) Every officer in charge of an engineering watch serving on a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more shall hold an appropriate certificate.

(b) No candidate shall qualify for the certification unless he is at least 18 years of age on the last date prescribed for receipt of application.

(c) No candidate shall qualify for the certification for a motor certificate unless —

- (i) he has completed approved seagoing service for a period of 12 months, of which at least 6 months in the Engine Department of a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more, closely supervised and monitored by the chief engineer or an officer of the Engine Department and which is duly documented in an approved training record book in accordance with section A-III/1 of the STCW Code; and
- (ii) the remaining period may have been spent on the main propelling machinery of a steam ship or motor ship, or on suitable auxiliaries of any ship, or on day work subject to the conditions specified in paragraph (k) of sub-rule (1) of rule 13.

(d) No candidate shall qualify for the certification for a steam certificate unless –

- (i) he has completed approved seagoing service for a period of 12 months, of which at least 6 months must have been spent on the boilers and main propelling machinery of a steam ship of 750 kW propulsion power or more, closely supervised and monitored by the chief engineer or an officer of the Engine Department and which is duly documented in an approved training record book in accordance with section A-III/1 of the STCW Code; and
- (ii) the remaining period may have been spent on the main propelling machinery of a steam ship or motor ship, or on suitable auxiliaries of any ship, or on day work subject to the conditions specified in paragraph (k) of sub-rule (1) of rule 13.

(e) No candidate shall qualify for the certification for a combined certificate unless he has completed –

- (i) approved seagoing service for a period of 12 months, of which at least 6 months must have been spent on the boilers and main propelling machinery of a steam ship of not less than 750 kW power;
- (ii) at least 6 months of the remaining seagoing service of 12 months must have been spent on the main propelling machinery of a motor ship of not less than 750 kW power;
- (iii) approved education and training for a period of at least 30 months as provided in an approved training and assessment programme including on-board training documented in an approved training record book, and meets the standards of competence as specified in section A-III/1 of the STCW Code; and
- (iv) the examination and assessment, and meets the standard of competence as specified in section A-III/1 of the STCW Code and as set out in rule 14 of the Training and Assessment Rules in the Third Schedule.

Second engineer officer on ships powered by main propulsion machinery of 3,000 kW or more propulsion power.

(2) (a) Every second engineer officer on a seagoing ship powered by main propulsion machinery of 3,000 kW propulsion power or more shall hold an appropriate certificate.

(b) No candidate shall qualify for the certification unless he —

- (i) holds an officer in charge of an engineering watch certificate of competency;
- (ii) has not less than one year approved seagoing service as assistant engineer officer or engineer officer in charge of an engineering watch; and
- (iii) has completed approved education, training, examination and assessment, and meets the standard of competence as specified in section A-III/2 of the STCW Code and as set out in rule 15 of the Training and Assessment Rules in the Third Schedule.

For motor certificate.

(c) Whilst in possession of a valid officer in charge of an engineering watch certificate of competency or an equivalent certificate, at least 12 months must have been spent on the main propelling machinery of a motor ship of not less than 3,000 kW power as an engineer of a regular watch.

For steam certificate.

(d) Whilst in possession of a valid officer in charge of an engineering watch certificate of competency or an equivalent certificate, at least 12 months must have been spent on the boilers and main propelling machinery of a steam ship of not less than 3,000 kW power as an engineer of a regular watch.

For combined certificate.

(e) Whilst in possession of a valid officer in charge of an engineering watch certificate of competency (steam or motor), at least 12 months, of which at least 6 months must have been spent on the boilers and main propelling machinery of a steam ship of not less than 3,000 kW power and at least 6 months must have been spent on the main propelling machinery of a motor ship of not less than 3,000 kW power as an engineer of a regular watch.

Chief engineer officer on ships powered by main propulsion machinery of 3,000 kW propulsion power or more.

(3) (a) Every chief engineer officer on a seagoing ship powered by main propulsion machinery of 3,000 kW propulsion power or more shall hold an appropriate certificate.

(b) No candidate shall qualify for the certification unless he —

- (i) holds an officer in charge of an engineering watch certificate of competency on ships powered by main propulsion machinery of 750 kW propulsion power or more;
- (ii) has not less than 18 months approved seagoing service as engineer officer in charge of an engineering watch on ships powered by main propulsion machinery of 3,000 kW propulsion power or more; and
- (iii) has completed approved education and training, and meets the standard of competence as specified in section A-III/2 of the STCW Code and as set out in rule 15 of the Training and Assessment Rules in the Third Schedule.

For steam or motor certificate.

- (c) (i) Candidates for the oral examination for a chief engineer certificate of competency must, whilst in possession of a valid second engineer certificate of competency, have completed the same period of qualifying seagoing service as that required for a second engineer for the steam or motor certificate as appropriate.
- (ii) Such seagoing service must have been served in ships of not less than 3,000 kW power and at least 12 months is to be served as an engineer officer in charge of regular watch.

For combined certificate.

(d) A candidate for chief engineer combined certificate of competency shall be granted a remission of 3 months from 9 months period as specified in the qualifying requirements for second engineer respectively, who has spent at least 6 months of that period whilst holding a chief engineer certificate of competency.

Second engineer officer on ships powered by main propulsion machinery of between 750 kW and 3,000 kW propulsion power, operating in near-coastal voyages.

(4) (a) Every second engineer officer serving on a seagoing ship of between 750 kW and 3,000 kW propulsion power operating in near-coastal voyages shall hold an appropriate certificate.

- (b) No candidate shall qualify for the certification unless he —
- (i) meets the requirements for certification as an officer in charge of an engineering watch;
 - (ii) has not less than 12 months approved seagoing service as assistant engineer officer or engineer officer, and
 - (iii) has completed approved education and training, and meets the standard of competence as specified in section A-III/3 of the STCW Code and as set out in rule 16 of the Training and Assessment Rules in the Third Schedule.

Chief engineer officer on ships powered by main propulsion machinery of between 750 kW and 3,000 kW propulsion power, operating in near-coastal voyages.

(5) (a) Every chief engineer officer serving on a seagoing ship of between 750 kW and 3,000 kW propulsion power operating in near-coastal voyages shall hold an appropriate certificate.

- (b) No candidate shall qualify for the certification unless he —
- (i) meets the requirements for certification as an officer in charge of an engineering watch;
 - (ii) has not less than 12 months approved seagoing service as assistant engineer officer or engineer officer;
 - (iii) has not less than 24 months approved seagoing service of which at least 12 months shall be served, while qualified to serve as second engineer officer; and
 - (iv) has completed approved education and training, and meets the standard of competence as specified in section A-III/3 of the STCW Code and as set out in rule 16 of the Training and Assessment Rules in the Third Schedule.

Additional training requirements.

20. The additional training requirements for marine engineer officers are as listed in Annex 6.

PART IV

RATINGS

Qualifying seagoing service.

21. (1) Guidelines for the qualifying seagoing service specified for any ratings' certificate are as follows —

(a) it must be performed in the Deck or Engine Department depending on the certification required;

(b) it must be calculated from the date of engagement to the date of discharge (both days inclusive);

(c) at least 6 months of the qualifying seagoing service must have been performed within the 5 years preceding the application for the examination, unless the examiner in his discretion allows otherwise;

(d) a portion of certain kinds of non-trading ships or limitations may be imposed on the certificate;

(e) non-trading service not specially provided for in these Regulations shall not be accepted as qualifying service;

(f) must produce evidence that an approved training programme has been followed throughout the specified period of seagoing service; and that all service while on board ship was performed in a satisfactory manner;

(g) every rating who fails to produce evidence as required in paragraph *(f)* may be required to complete an additional period of seagoing service before being considered eligible for a certificate.

(2) Ratings forming part of a navigational watch candidates require —

(a) a statement to be produced from their employers, or the master under whom they have served, that at least 6 months of the last 12 months of their seagoing service have been spent as part of a navigational watch on the bridges under the supervision of the master or a qualified officer;

(b) that these duties may include keeping a look-out on the bridge or acting as helmsman but these tasks shall not normally exceed 2 months out of the required 6 months.

(3) Ratings forming part of an engine room watch candidates require —

(a) a statement to be produced from their employers, or the chief engineer under whom they have served, that at least 6 months of the last 12 months of their seagoing service have been spent as part of an engineering watch in the engine room under the supervision of the chief engineer or a qualified engineer officer;

(b) that these duties may include support level functions in the engine room or acting as motorman or oiler but these tasks shall not normally exceed 2 months out of the required 6 months.

Minimum qualifications for rating.

22. No rating forming part of a navigational or engine room watch shall be engaged in any capacity in any ship unless he —

(a) is of 18 years of age on the last date prescribed for receipt of application;

(b) holds a certificate showing the date of birth;

(c) is in possession of a valid passport;

(d) has passed PMB (BJCE) Level or an equivalent examination from a Board of Education established under law;

(e) has completed the approved pre-sea training; and

(f) meets the medical fitness standards as specified in the First Schedule.

Minimum requirements for certification.

Ratings forming part of navigational watch.

23. (1) Every rating forming part of a navigational watch on a seagoing ship of 500 tons or more, other than ratings under training and ratings whose duties while on watch are of an unskilled nature, shall be duly certificated by the Director to perform such duties, and shall —

(a) be not less than 18 years of age on the last date prescribed for receipt of application;

(b) have completed —

(i) approved seagoing service for a period of not less than 9 months; or

(ii) approved pre-sea training or special training for a minimum period of 3 months and approved seagoing service for a period of not less than 6 months;

(c) meet the standard of competence as specified in section A-II/4 of the STCW Code and as set out in rule 17 of the Training and Assessment Rules in the Third Schedule;

(d) have seagoing service, training and experience as required by subparagraph (ii) of paragraph (b) and shall be associated with navigational watchkeeping functions. It shall also include the performance of duties carried out on board the ship under the direct supervision of the master or the officer in charge of the navigational watch duly documented in an approved rating training record book; and

(e) be eligible for assessment by the Examination Centre or by a training centre authorised by the Director if the rating has served in a relevant capacity in the Deck Department for a period of not less than one year within the last 5 years preceding the 1st. August, 1998.

Ratings forming part of engine room watch.

(2) Every rating forming part of an engine room watch or designated to perform duties in a periodically unmanned engine room on a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more, other than ratings under training and ratings whose duties while on watch are of an unskilled nature, shall be duly certificated by the Director to perform such duties, and shall —

(a) be not less than 18 years of age on the last date prescribed for receipt of application;

(b) have completed —

(i) approved seagoing service for a period of not less than 9 months; or

(ii) approved pre-sea training or special training for a minimum period of 2 months and approved seagoing service for a period of not less than 6 months;

(c) meet the standard of competence specified in section A-III/4 of the STCW Code and as set out in rule 18 of the Training and Assessment Rules in the Third Schedule;

(d) have seagoing service, training and experience as required by subparagraph (ii) of paragraph (b) and shall be associated with engine room watchkeeping functions, which shall be carried out under the supervision of the chief engineer or the officer in charge of an engineering watch and documented in an approved training record book; and

(e) be eligible for assessment by the Examination Centre or by a training centre authorised by the Director, if the rating has served in a relevant capacity in the Engine Department for a period of not less than one year within the last 5 years preceding the 1st. August, 1998.

Qualifying service for eligibility to deck or engine certificates of competency.

24. (1) Service as rating on board a seagoing ship —

(a) shall count as qualifying service at two-thirds rate for examinations for chief mate-NCV or second engineer-NCV, provided that a certificate from the master or chief engineer of the ship, or both, is produced to show that sufficient duties on deck or engine or both have been performed;

(b) must be proven for at least 12 months on seagoing ships trading between locations which are more than 500 miles apart or on ships engaged in near-coastal voyages or unlimited voyages; and

(c) must produce evidence that an approved training programme has been followed throughout the specified period of seagoing service; and that all service while on board ship was performed in a satisfactory manner.

(2) If evidence as required in paragraph (c) of sub-rule (1) is not produced, the seafarer may be required to complete an additional period of seagoing service before being considered eligible for examinations.

Additional training requirements.

25. The additional training requirements for ratings are listed in Annex 6.

EQUIVALENT CERTIFICATES TABLE

A. DECK OFFICERS

	Certificates of competency	Convention Ref.	Equivalent certificates in Brunei Darussalam
(1)	Officer in charge of a navigational watch on ships of 500 tons or more, on unlimited voyages	Reg. II/1	Officer in charge of a navigational watch
(2)	Chief mate on ships of 500 tons or more, on unlimited voyages	Reg. II/2	Chief mate
(3)	Master on ships of 500 tons or more, on unlimited voyages	Reg. II/2	Master
(4)	Chief mate on ships of between 500 and 3,000 tons operating in near-coastal voyages	Reg. II/2	Chief mate-NCV
(5)	Master on ships of 3,000 tons or more operating in near-coastal voyages	Reg. II/2	Chief mate
(6)	Master on ships of between 500 and 3,000 tons operating in near-coastal voyages	Reg. II/2	Master-NCV (indicating tonnage limitations)
	Master on ships of less than 500 tons operating in near-coastal voyages	Reg. II/3	
(7)	Officer in charge of a navigational watch on ships of less than 500 tons operating in near-coastal voyages	Reg. II/3	Officer in charge of a navigational watch-NCV

ANNEX 1 — (continued)

B. MARINE ENGINEER OFFICERS

	Certificates of competency	Convention Ref.	Equivalent certificates in Brunei Darussalam
(1)	Officer in charge of an engineering watch on ships powered by main propulsion machinery of 750 kW or more	Reg. III/1	Officer in charge of an engineering watch
(2)	Second engineer on ships powered by main propulsion machinery of 3,000 kW or more	Reg. III/2	Second engineer
(3)	Chief engineer on ships powered by main propulsion machinery of 3,000 kW or more	Reg. III/2	Chief engineer
(4)	Officer in charge of an engineering watch on ships powered by main propulsion machinery of 750 kW or more operating in near-coastal voyages	Reg. III/1	Officer in charge of an engineering watch-NCV
(5)	Second engineer on ships powered by main propulsion machinery of between 750 kW and 3,000 kW operating in near-coastal voyages	Reg. III/3	Second engineer-NCV
(6)	Chief engineer on ships powered by main propulsion machinery of between 750 kW and 3,000 kW operating in near-coastal voyages	Reg. III/3	Chief engineer-NCV
(7)	Chief engineer on ships powered by main propulsion machinery of 3,000 kW or more operating in near-coastal voyages	Reg. III/2	Second engineer

C. RATINGS

	Certificates	Convention Ref.	Equivalent certificates in Brunei Darussalam
(1)	Ratings forming part of a navigational watch	Reg. II/4	Ratings forming part of a navigational watch
(2)	Ratings forming part of an engine room watch	Reg. III/4	Ratings forming part of an engine room watch

PROGRESSION TABLE FOR DECK OFFICERS

	Officer in charge of a navigational watch		Remarks
	Entry option 1	Entry option 2	
Minimum age	18	18	
Qualifications	'O' levels	'O' levels	
Pre-sea training	3 months	Nil	Must complete 4 basic safety courses prior commencing seagoing service
On-board training	24 months	36 months	Of which 6 months must be supervised bridge watchkeeping duties
Preparatory course for ONW CoC	6 months	6 months	Required

For examination of →	Chief mate	Master	Remarks
If holding ONW CoC and sailed as ONW	18 months	+ 18 months	See rule 11
If holding chief mate CoC and sailed as ONW		18 months	See rule 11
If holding chief mate CoC and sailed as chief mate		12 months	See rule 11
Preparatory course for chief mate or master CoC	12 months		See rule 11
Chief mate and master (combined) examinations	Written and orals for chief mate		
Master examinations		Orals only	

ONW = Officer in charge of a navigational watch
CoC = Certificate of competency

ANNEX 3

rules 3(3)(a) and
13(1)(o)

PROGRESSION TABLE FOR MARINE ENGINEER OFFICERS

	Officer in charge of an engineering watch		Remarks
	Entry option 1	Entry option 2	
Minimum age	18	18	
Qualifications	'O' levels	Tertiary qualification	Tertiary qualification - refer to rule 16(2)(b)
Workshop time		6 months	Must complete 4 basic safety courses prior commencing seagoing service
Pre-sea training including workshop time	24 months		Must complete 4 basic safety courses prior commencing seagoing service
On-board training	12 months	24 months	Of which 6 months must be supervised engine room watchkeeping duties
Preparatory course for OEW CoC	6 months		Required

For examination of →	Second engineer	Chief engineer	Remarks
If holding OEW CoC and sailed as OEW	18 months	+ 18 months	See rule 13
If holding second engineer CoC and sailed as OEW		18 months	See rule 13
If holding second engineer CoC and sailed as second engineer		12 months	See rule 13
Preparatory course for second engineer and chief engineer CoC	12 months		See rule 13
Second engineer and chief engineer (combined) examinations	Written and orals for second engineer		
Chief engineer examinations		Orals only	

OEW = Officer in charge of an engineering watch
CoC = Certificate of competency

PROGRESSION TABLE FOR RATINGS

	RATINGS		Remarks
	Deck rating	Engine rating	
Minimum age	18	18	
Qualifications	'PMB' (BJCE) levels	'PMB' (BJCE) levels	
Pre-sea training	3 months	3 months	Must complete 4 basic safety courses prior commencing seagoing service
On-board training for rating forming part of a navigational or engineering watch	6 months	6 months	Of which 2 months must be supervised bridge or engine watchkeeping duties
On-board training for qualification for ONW or OEW	36 months	36 months	Of which 6 months must be supervised bridge or engine watchkeeping duties
Preparatory course for ONW or OEW CoC	6 months	6 months	Required
ONW OR OEW CERTIFICATION			

ONW = Officer in charge of a navigational watch
 OEW = Officer in charge of an engineering watch
 CoC = Certificate of competency

ANNEX 5

rules 3(4)(c),
7(6) and 16(3)(b)

SEAGOING SERVICE ALLOWANCES FOR SERVICE ON NON-TRADING SHIPS

TYPES OF SHIPS	GRT	ASSESSMENT OF SEAGOING SERVICE		
		Allowance	Can appear for	Remarks
Ships employed by port authorities such as port tugs, dredgers, hopper barges, pilot ships, research and survey ships, navaid tenders, custom boats etc.	< 500	2/3	ONW (NCV) OEW (NCV)	At least 6 months service on merchant ships is required if a service restriction is not be imposed on certificates in the capacity of master, chief mate, chief engineer or second engineer
Naval ships, cable ships, research and survey ships, salvage ships, stand-by ships, DP ships, cruising pilot ship, seagoing ferries, aggregate dredgers	> 500	2/3	ONW (NCV) OEW (NCV)	Seagoing service counted in full provided at least two-thirds of seagoing service on board spent at sea
Seagoing Tug	> 500	1	ONW (NCV) OEW (NCV)	At least 6 months service on merchant ships required
Trawlers and deep sea fishing ships	< 500	2/3	ONW (NCV) OEW (NCV)	At least 6 months service on merchant ships required
Floating Production Storage and Offloading (FPSO)s	> 500	1/2	ONW (NCV) OEW (NCV)	Counted at half rate towards a maximum of 50% total seagoing service or watchkeeping service required
Standing by new construction in final stages	> 500	1	Only applies to holders of chief mate or ONW-NCV CoC gaining sea-time for master or master-NCV exams respectively	

ANNEX 5 – *(continued)*

ONW = Officer in charge of a navigational watch
OEW = Officer in charge of an engineering watch
NCV = Near-coastal voyage
CoC = Certificate of competency

Notes:

- 1 Approved seagoing service of 12 months for officers and 30 months for ratings as appropriate may be performed on a non-trading ship. The balance of 6 months of approved seagoing service to be performed on a trading ship of 500 tons or more in order to be eligible to join the relevant near-coastal voyage education and training course.
- 2 Where candidates have other types or combinations of seagoing service in the above table, details of service together with documentary evidence shall be submitted for consideration to the Director.

ADDITIONAL TRAINING REQUIREMENTS TABLE

A. DECK OFFICERS

Additional training requirements	Class				
	Unlimited			NCV	
	Master	Chief mate	ONW	Master	Chief mate
Basic safety training	X	X	X	X	X
<ul style="list-style-type: none"> • Personal survival techniques • Fire prevention and fire-fighting • Elementary first aid • Personal safety and social responsibility 					
Advanced fire-fighting	X	X	X	X	X
Proficiency in survival crafts and rescue boats	X	X	X	X	X
GMDSS - General Operator's certificate	X	X	X	X	X
Medicare on board ship	X	X		X	
Navigation control course	X	X		X	
Proficiency in medical first aid			X		X
Electronic navigation systems			X		X
Oil, chemical and liquefied gas tanker familiarisation course *			X		X

* Optional, based on type of ship the seafarer is joining

Other requirements	Class				
	Unlimited			NCV	
	Master	Chief mate	ONW	Master	Chief mate
Pre-sea training course			X		X
Examination preparatory course	X	X	X	X	X
Medical fitness examination	X	X	X	X	X

ONW = Officer in charge of a navigational watch

NCV = Near-coastal voyage

ANNEX 6 – (continued)

B. MARINE ENGINEER OFFICERS

Additional training requirements	Class				
	Unlimited			NCV	
	Chief engineer	Second engineer	OEW	Chief engineer	Second engineer
Basic safety training <ul style="list-style-type: none"> • Personal survival techniques • Fire prevention and fire-fighting • Elementary first aid • Personal safety and social responsibility 	X	X	X	X	X
Advanced fire-fighting	X	X	X	X	X
Proficiency in survival crafts and rescue boats	X	X	X	X	X
Medicare on board ship	X	X		X	
Proficiency in medical first aid			X		X
Oil, chemical and liquefied gas tanker familiarisation course *			X		X

* Optional, based on type of ship the seafarer is joining

Other requirements	Class				
	Unlimited			NCV	
	Chief engineer	Second engineer	OEW	Chief engineer	Second engineer
Pre-sea training course			X		X
Examination preparatory course	X	X	X	X	X
Medical fitness examination	X	X	X	X	X

OEW = Officer in charge of an engineering watch

NCV = Near-coastal voyage

ANNEX 6 – (continued)

C. RATINGS

Additional training requirements	Rating		
	Deck	Engine	Catering
Basic safety training <ul style="list-style-type: none"> • Personal survival techniques • Fire prevention and fire-fighting • Elementary first aid • Personal safety and social responsibility 	X	X	X
Proficiency in survival crafts and rescue boats ♦	X	X	X
Oil, chemical and liquefied gas tanker familiarisation course *	X	X	

♦ Optional, based on if seafarer is designated in charge of the survival craft or rescue boat.

* Optional, based on type of ship the seafarer is joining.

Other requirements	Rating		
	Deck	Engine	Catering
Pre-sea training course	X	X	
Medical fitness examination	X	X	X

The following table sets out the existing training that shall be considered as meeting the requirements of the Convention during the transitional period.

Training acceptable	Approved training required for Convention certification
Electronic navigation systems	Electronic navigation systems
GMDSS – General Operator's certificate	GMDSS – General Operator's certificate
Ship captain's medical training	Medical care on board ship
Navigation control course	Navigation control course
Oil, chemical and liquefied gas tanker familiarisation course	Oil, chemical and liquefied gas tanker familiarisation course
First aid at sea	Proficiency in medical first aid
Proficiency in survival crafts	Proficiency in survival crafts and rescue boats
Fire-fighting	Fire prevention and fire-fighting

EXAMINATION SUBJECTS, STRUCTURE AND MARKING TABLE

A. DECK OFFICERS

CoC	PART	TYPE	SUBJECT	Time (hrs)	Total Marks	% reqd to Pass
Officer in charge of a navigational watch	A	Written	General Ship Knowledge	3	200	50
			Chartwork	2	150	70
			Practical Navigation	3	200	70
			Meteorology	2	150	50
	B	Written	Mathematics	2	100	50
			Science (General and Applied)	2	100	50
	C	Signals	Transmitting and receiving information by visual signaling <ul style="list-style-type: none"> • By Morse code by flash lamp (up to 6 words per minute) • Ability to use the International Code of Signals 			
	D	Orals	at the examiner's discretion			

CoC	PART	TYPE	SUBJECT	Time (hrs)	Total Marks	% reqd to Pass
Chief mate and master	A	Written	Business and Law	3	200	50
			Navigation	3	200	60
			Ship Stability and Construction	3	200	60
	B	Written	Navigational Aids and Instruction	3	200	60
			Engineering Knowledge & Control	2.5	150	50
			Shipboard Operations	2.5	150	50
			Meteorology	2.5	150	50
	C	Orals	at the examiner's discretion			

ANNEX 7 – (continued)

CoC	PART	TYPE	SUBJECT	Time (hrs)	Total Marks	% reqd to Pass
Chief mate-NCV	A	Written	Navigation	3	200	60
			Chartwork	3	150	60
	B	Written	General Ship Knowledge	3	200	50
			Meteorology	2.5	150	50
	C	Signals	Transmitting and receiving information by visual signaling <ul style="list-style-type: none"> • By Morse code by flash lamp (up to 6 words per minute) • Ability to use the International Code of Signals 			
	D	Orals	at the examiner's discretion			

CoC	PART	TYPE	SUBJECT	Time (hrs)	Total Marks	% reqd to Pass
Master-NCV	A	Written	Navigation	3	200	60
			Chartwork	3	150	60
	B	Written	Ship Stability	2.5	150	50
			Shipboard Operations	3	200	50
	C	Orals	at the examiner's discretion			

CoC = certificate of competency

Notes:

- 1 For master and chief mate on ships of between 500 and 3,000 tons, operating in near-coastal voyages, the examination structure shall be the same as for master and chief mate-Unlimited, but reduced in content to satisfy the requirements of section A-II/2 of the STCW Code for masters and chief mates on ships of between 500 and 3,000 tons.
- 2 For officer in charge of a navigational watch and master on ships of less than 500 tons, operating in near-coastal voyages, the examination structure shall be the same as for chief mate and master-NCV, but reduced in content to satisfy the requirements for ships of less than 500 tons, operating in near-coastal voyages.

ANNEX 7 – (continued)

B. MARINE ENGINEER OFFICERS

CoC	PART	TYPE	SUBJECT	Time (hrs)	Total Marks	% reqd to Pass
Officer in charge of an engineering watch	A	Written	General Engineering Science I	2	100	50
			General Engineering Science II	2	100	50
	B	Written	Engineering Knowledge (paper 1)	2	100	50
			Engineering Knowledge (paper 2)	2	100	50
	C	Orals	at the examiner's discretion			

CoC	PART	TYPE	SUBJECT	Time (hrs)	Total Marks	% reqd to Pass
Second and chief engineer officer	A	Written	Applied Mechanics	3	100	50
			Applied Heat	3	100	50
			Mathematics	3	100	50
			Engineering Drawing	4	100	50
	B	Written	Electrotechnology	3	100	50
			Naval Architecture	3	100	50
			Engineering Knowledge (paper 1)	3	100	50
			Engineering Knowledge (paper 2)	3	100	50
	C	Orals	at the examiner's discretion			

CoC	PART	TYPE	SUBJECT	Time (hrs)	Total Marks	% reqd to Pass
Officer in charge of an engineering watch (combined certificate)	A	Written	Engineering Knowledge	2	100	50
	B	Orals	at the examiner's discretion			

ANNEX 7 – (continued)

CoC	PART	TYPE	SUBJECT	Time (hrs)	Total Marks	% reqd to Pass
Second and chief engineer officer (combined certificate)	A	Written	Engineering Knowledge	3	100	50
	B	Orals	at the examiner's discretion			

CoC	PART	TYPE	SUBJECT	Time (hrs)	Total Marks	% reqd to Pass
Second engineer officer-NCV	A	Written	Engineering Knowledge	3	100	50
	B	Orals	at the examiner's discretion			

CoC	PART	TYPE	SUBJECT	Time (hrs)	Total Marks	% reqd to Pass
Chief engineer officer-NCV	A	Written	Engineering Knowledge (paper 1)	2	100	50
			Engineering Knowledge (paper 2)	2	100	50
	B	Orals	at the examiner's discretion (60%)			

CoC = certificate of competency

TRAINING AND ASSESSMENT RULES

ARRANGEMENT OF RULES

Rule

1. Application.
2. Training and assessment.
3. Quality standards.
4. Standards of medical fitness.
5. Assessment of seafarers.
6. Records of training and assessment.
7. Revalidation and upgrade of certificates.
8. Responsibilities of company, masters and crew members.
9. Guidance regarding minimum standard of competence for officers in charge of navigational watch on ships of 500 tons or more.
10. Guidance regarding minimum standard of competence for masters and chief mates on ships of 500 tons or more on unlimited voyages.
11. Guidance regarding minimum standard of competence for masters and chief mates on ships of between 500 and 3,000 tons on near-coastal voyages.
12. Guidance regarding minimum standard of competence for officers in charge of navigational watch and of masters on ships of less than 500 tons on near-coastal voyages.
13. Guidance regarding minimum standard of competence for GMDSS radio operator.
14. Guidance regarding minimum standard of competence for officers in charge of engineering watch on ships powered by main propulsion machinery of 750 kW or more.

15. Guidance regarding minimum standard of competence for chief engineer officers and second engineer officers on ships powered by main propulsion machinery of 3,000 kW propulsion power or more.
16. Guidance regarding minimum standard of competence for chief engineer officers and second engineer officers on ships of between 750 kW and 3,000 kW propulsion power on near-coastal voyages.
17. Guidance regarding minimum requirements for certification of ratings forming part of navigational watch.
18. Guidance regarding minimum requirements for certification of ratings forming part of engine room watch.
19. Guidance regarding minimum requirements for basic safety training.
20. Guidance regarding minimum requirements for training and qualifications of masters, officers and ratings on tankers.
21. Guidance regarding minimum requirements for training and qualifications of masters, officers and ratings on ro-ro passenger ships.
22. Guidance regarding minimum requirements for training and qualifications of masters, officers and ratings on passenger ships other than ro-ro passenger ships.
23. Guidance regarding minimum requirements for proficiency in survival craft and rescue boats other than fast rescue boats.
24. Guidance regarding minimum requirements for proficiency in fast rescue boats.
25. Guidance regarding minimum requirements for advanced fire-fighting.
26. Guidance regarding minimum requirements for seafarers designated to provide medical first aid on board ship.
27. Guidance regarding minimum requirements for persons in charge of medical care on board ship.

ANNEX – TABLES

THIRD SCHEDULE

TRAINING AND ASSESSMENT RULES

Application.

1. These Rules shall apply to —

(a) any candidate who is a citizen of Brunei Darussalam;

(b) any other candidate who is not a citizen of Brunei Darussalam and is permitted by the Director to be examined, assessed and certified under these Rules;

(c) every Brunei Darussalam registered shipping company employing candidates specified in paragraphs (a) and (b) including the personnel engaged by such company for the purpose of imparting in-service training to candidates for certification, on board or ashore;

(d) every training institute engaged in training maritime personnel for certification and every trainer engaged in such institutes; and

(e) every assessor engaged in the assessment of any candidate for training in any approved training institute, on board any ship or at an approved examination centre.

Training and assessment.

2. (1) All training and assessment of seafarers for certification shall be —

(a) structured in accordance with written programmes, including such methods and media of delivery, procedures, and course material as are necessary to achieve the prescribed standards of competence; and

(b) conducted, monitored, evaluated and supported by persons qualified to conduct such training and assessment.

(2) The lecturer shall —

(a) cover the subject allocated to him, to fulfill the requirements of the tables of competencies for each function as given in the STCW Code;

(b) conduct tutorials and tests to determine that the candidate is proficient in the competence, to satisfactorily complete each competence requirement;

(c) develop a progress folio of the tutorials and tests in each competence for each candidate; and

(d) submit the progress folio of the candidate for assessment to the Assessment Unit, on satisfactory completion of the competencies in each function.

(3) Lecturers, instructors, supervisors and assessors —

(a) who deliver or conduct a training programme or assess seafarers for certification under these Regulations and the Convention are required to complete an approved course in training and assessment; and

(b) who conduct approved simulator training and assessment shall have received appropriate guidance in instructional techniques involving the use of simulators and have gained practical operational experience on the particular type of simulator being used.

(4) Officers who are attending an approved post-sea education and training course for master and chief mate or chief engineer officer and second engineer officer shall also complete an approved course for persons responsible for in-service training.

(5) Masters, chief engineer officers, chief mates and second engineer officers who have not completed the approved course mentioned in sub-rule (4) shall complete the same whilst attending an approved refresher and updating course in accordance with section A-I/11 of the STCW Code.

(6) The following courses are approved for the purposes of this rule —

(a) IMO Model course 6.09 or equivalent approved course covering all course content of IMO Model course 6.09;

(b) IMO Model course 3.12 - Assessment, Examination and Certification of Seafarers;

(c) any other courses required by IMO, for the purposes of this rule, at a future date.

Quality standards.

3. (1) Maritime education and training institutions shall set up a quality standards system and get certified by a recognised organisation. The certificate and quality standards system shall thereafter be maintained by the conduct of annual, internal and external audits.

(2) A list of such maritime education and training institutions which are approved by the Director is to be maintained in the approved maritime training institutes list, in the Examination Centre.

Standards of medical fitness.

4. (1) The company shall ensure that medical examinations are carried out as follows —

(a) a pre-sea medical examination before a person embarks upon a seafaring career;

(b) a periodic medical examination for serving seafarers;

(c) the periodic medical examination is conducted either before a seafarer reports to a ship or at intervals not exceeding one year;

(d) in case of illness or injury to a seafarer disabling the seafarer for 30 or more days, the medical examination shall be repeated;

(e) medical examinations are carried out by approved medical examiners in accordance with the medical fitness standards given in the Medical Examination Rules, in the First Schedule;

(f) records of medical examinations of seafarers in their employment are retained for 5 years;

(g) the medical fitness certificate, as shown in the Sixth Schedule, is issued to seafarers found medically fit for sea service.

(2) Seafarers shall carry their medical fitness certificate during their shipboard service and shall bring the same for the next medical examination or when they are treated for an illness or injury.

Assessment of seafarers.

Assessment during post-sea education and training.

5. (1) (a) Each approved maritime training institution must set up its own Assessment Unit which shall be entrusted with the responsibility of internal assessment of competencies under each function as prescribed in the STCW Code.

(b) The Assessment Unit shall consist of assessors who are not associated with teaching, conducting tutorials and tests at class level for the appropriate competence.

(2) The functions of the Assessment Unit are as follows –

(a) the Assessment Unit of each institution shall report its findings, assessments and recommendations to the Head of the institution;

(b) the functioning of the Assessment Unit shall be subject to supervision by the Head or the Deputy Head of institute, the quality standards system of the institute and regular and unscheduled monitoring by the Director;

(c) to ensure the satisfactory progress of the candidates during the conduct of the course by review of the results of tutorial workshops, tests and reports of course lecturers and thereby constantly monitor and assess the progress of candidates;

(d) to evaluate the progress folio of each student and review the performance of each candidate in the appropriate function;

(e) if the performance of the candidate during post-sea training and assessment is unsatisfactory, the Assessment Unit shall recommend that the candidate concerned shall –

(i) repeat the tasks and tests for assessment; or

(ii) repeat the approved course, or part of the course, tasks and tests;

(f) to recommend the suitability of each candidate for the appropriate examination and for the appropriate post-sea training and assessment certificate to be issued;

(g) to inform the Examination Centre of the list of suitable candidates to appear for examination in each function.

Assessment for issue of certificate of competency.

(3) (a) The Director may authorise examiners in the Examination Centre, in conformity with these Rules.

(b) On production of a certificate of satisfactory completion of post-sea training and assessment issued by the Head of the training institute, the Examination Centre shall permit the candidate, subject to verification of eligibility, to appear for written examinations in that function.

(c) On passing the written papers for the function and on completion of the modular courses under the function, the designated Examination Centre

shall permit the candidate to appear for oral or practical examination in the function to be conducted by the examiner concerned.

(d) On satisfactory performance in the examinations in all the prescribed functions, the examiner shall issue an appropriate certificate of competency.

Records of training and assessment.

6. The Examination Centre shall maintain a national database of records of all seafarers with regard to their seagoing services, progress of on-board training, courses attended, examinations and assessments completed and certificates held.

Revalidation and upgrade of certificates.

7. (1) Details of the approved revalidating and upgrade courses and a list of approved maritime education and training institutions conducting the same shall be published by the Director.

Professional competence.

(2) In addition to the requirements contained in sub-rule (1), continued professional competence is to be established by —

(a) approved seagoing service, performing functions appropriate to the certificate held, for a period of at least one year in total during the preceding 5 years;

(b) having performed functions considered to be equivalent to the seagoing service required in paragraph *(a)* (marine surveyors, marine lecturers, marine superintendents, maritime pilots, ship repair managers); or

(c) having completed approved seagoing service, performing functions appropriate to the certificate held, for a period of not less than 3 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.

Responsibilities of company, masters and crew members.

8. (1) Companies, masters and crew members each have the responsibility for ensuring that the obligations set out in these Rules are given full and complete effect and that such other measures as may be necessary are taken to ensure that each crew member can make a knowledgeable and informed contribution to the safe operation of the ship.

(2) The company shall provide written instructions to the master of each ship setting forth the policies and the procedures to be followed to ensure that all seafarers who are newly employed on board the ship are given a reasonable opportunity to become familiar with the shipboard equipment, operating procedures and other arrangements needed for the proper performance of their duties, before being assigned those duties. Such policies and procedures are to include —

(a) allocation of a reasonable period of time during which each newly employed seafarer shall have an opportunity to become acquainted with;

(b) the specific equipment the seafarer shall be using or operating;

(c) ship-specific watchkeeping, safety, environmental protection and emergency procedures and arrangements the seafarer needs to know to perform the tasks;

(d) designation of a knowledgeable crew member who shall be responsible for ensuring that an opportunity is provided to each newly employed seafarer to receive essential information in a language the seafarer understands; and

(e) companies which shall provide ship-specific introductory programmes aimed at assisting newly employed seafarers to familiarise themselves with all procedures and equipment relating to their areas of responsibility.

(3) The master shall take all steps necessary to implement any company instructions issued in accordance with section A-I/14 of the STCW Code. Such steps shall include —

(a) identifying all seafarers who are newly employed on board the ship before they are assigned to any duties;

(b) providing the opportunity for all newly arrived seafarers to —

(i) visit the spaces in which their primary duties shall be performed;

(ii) get acquainted with the location, controls and display features of equipment they will be operating or using, activate the equipment when possible and perform functions using the controls on the equipment, and observe and ask questions from any person who is already familiar with the equipment, procedures and other arrangements, and who can communicate information in a language which the seafarer understands; and

(c) providing for a suitable period of supervision when there is any doubt that a newly employed seafarer is familiar with the shipboard equipment, operating procedures and other arrangements needed for the proper performance of his duties.

Ship's crew.

(4) (a) Seafarers who are newly assigned to a ship shall take every opportunity to become familiar with the shipboard equipment, operating procedures and other arrangements needed for the proper performance of their duties.

(b) Upon arriving on board for the first time, each seafarer has the responsibility to become acquainted with the ship's working environment, particularly with respect to new or unfamiliar equipment, procedures or arrangements.

(c) Seafarers who do not promptly attain the level of familiarity required for performing their duties have the obligation to bring this fact to the attention of their supervisor or to the attention of the crew member designated in accordance with the requirements of paragraph 2.2 of section A-I/14 of the STCW Code, and to identify any equipment, procedure or arrangement which remains unfamiliar.

Guidance regarding minimum standard of competence for officers in charge of navigational watch on ships of 500 tons or more.

9. (1) Every candidate for certification, as required by sub-rule (1) of rule 11 of the Examination and Certification Rules in the Second Schedule, shall —

(a) be required to demonstrate the competence at operational level, to undertake the tasks, duties and responsibilities listed in column 1 of Table 1 in the Annex;

(b) at least hold an appropriate certificate for performing VHF radio communications in accordance with the requirements of the Radio Regulations; and

(c) if designated to have primary responsibility for radio communications during distress incidents, hold an appropriate certificate issued or recognised under the provisions of the Radio Regulations.

(2) The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of Table 1.

{3} The level of knowledge of the subjects listed in column 2 of Table 1 shall be sufficient for officers of the watch to carry out their watchkeeping duties.

{4} Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall be based on Part 3-1 of the Fourth Schedule and shall also take into account the relevant requirements of this rule.

{5} Every candidate 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 listed in columns 3 and 4 of Table 1.

{6} Every candidate whose seagoing service forms part of a training programme, verified and approved as meeting the requirements of this rule shall follow an approved programme of on-board training which —

(a) ensures that the candidate receives systematic practical training and experience in the tasks, duties and responsibilities of an officer in charge of a navigational watch;

(b) is closely supervised and monitored by qualified officers aboard the ships in which the approved seagoing service is performed; and

(c) is adequately documented in an approved training record book or similar approved document.

Guidance regarding minimum standard of competence for masters and chief mates on ships of 500 tons or more on unlimited voyages.

10. (1) Every candidate for certification as master or chief mate of ships of 500 tons or more, as required by sub-rules (2) and (3) of rule 11 of the Examination and Certification Rules in the Second Schedule, shall be required to demonstrate the competence to undertake, at the management level, the tasks, duties and responsibilities listed in column 1 of Table 2 in the Annex.

(2) The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of Table 2. This incorporates, expands and extends in depth the subjects listed in column 2 of Table 1 for officers in charge of a navigational watch.

(3) Bearing in mind that the master has ultimate responsibility for the safety of the ship, its passengers, crew and cargo, and for the protection of the marine environment against pollution by the ship and that a chief mate shall be in a position to assume that responsibility at any time, assessment in these subjects shall be designed to test their ability to assimilate all available information that

affects the safety of the ship, its passengers, crew or cargo, or the protection of the marine environment.

(4) The level of knowledge of the subjects listed in column 2 of Table 2 shall be sufficient to enable the candidate to serve in the capacity of master or chief mate.

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

(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 criteria for evaluating competence tabulated in columns 3 and 4 of Table 2.

Guidance regarding minimum standard of competence for masters and chief mates on ships of between 500 and 3,000 tons on near-coastal voyages.

11. (1) Every candidate for certification as master or chief mate of ships of between 500 and 3,000 tons, as required by sub-rules (4) and (5) of rule 11 of the Examination and Certification Rules in the Second Schedule, shall be required to demonstrate the competence to undertake, at the management level, the tasks, duties and responsibilities listed in column 1 of Table 3 in the Annex.

(2) The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of Table 3. This incorporates, expands and extends in depth the subjects listed in column 2 of Table 1 for officers in charge of a navigational watch.

(3) Bearing in mind that the master has ultimate responsibility for the safety of the ship, its passengers, crew and cargo, and for the protection of the marine environment against pollution by the ship and that a chief mate shall be in a position to assume that responsibility at any time, assessment in these subjects shall be designed to test their ability to assimilate all available information that affects the safety of the ship, its passengers, crew or cargo, or the protection of the marine environment.

(4) The level of knowledge of the subjects listed in column 2 of Table 3 shall be sufficient to enable the candidate to serve in the capacity of master or chief mate.

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

(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 criteria for evaluating competence tabulated in columns 3 and 4 of Table 3.

Guidance regarding minimum standard of competence for officers in charge of navigational watch and of masters on ships of less than 500 tons on near-coastal voyages.

12. (1) Every candidate for certification, as required by sub-rules (6) and (7) of rule 11 of the Examination and Certification Rules in the Second Schedule, shall —

(a) be required to demonstrate the competence to undertake, at operational level, the tasks, duties and responsibilities listed in column 1 of Table 4 in the Annex;

(b) at least hold an appropriate certificate for performing VHF radio communications in accordance with the requirements of the Radio Regulations; and

(c) if designated to have primary responsibility for radio communications during distress incidents, hold an appropriate certificate issued or recognised under the provisions of the Radio Regulations.

(2) The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of Table 4.

(3) The level of knowledge of the subjects listed in column 2 of Table 4 shall be sufficient to enable the candidate to serve in the capacity of officer in charge of a navigational watch.

(4) Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall be based on Part 3-1 of the Fourth Schedule and shall also take into account the relevant requirements of this rule.

(5) Every candidate 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 4.

(6) Every candidate for certification as officer in charge of a navigational watch on ships of less than 500 tons, on near-coastal voyages, who is required to complete special training, shall follow an approved programme of on-board training which —

(a) ensures that the candidate receives systematic practical training and experience in the tasks, duties and responsibilities of an officer in charge of a navigational watch;

(b) is closely supervised and monitored by qualified officers on board the ships in which the approved seagoing service is performed; and

(c) is adequately documented in a training record book or similar document.

(7) Every candidate for certification as master on ships of less than 500 tons, on near-coastal voyages, shall meet the requirements for an officer in charge of a navigational watch set out in Table 4 and, in addition, shall be required to provide evidence of knowledge and ability to carry out all the duties of such a master as set out in Table 5 in the Annex.

Guidance regarding minimum standard of competence for GMDSS radio operator.

13. (1) The minimum knowledge, understanding and proficiency required for certification of GMDSS radio operator, as required by sub-rule (8) of rule 11 of the Examination and Certification Rules in the Second Schedule, shall be sufficient for radio operator 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 shall be required to demonstrate ability to undertake the tasks, duties and responsibilities listed in column 1 of Table 6 in the Annex.

(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 6.

(3) The level of knowledge of the subjects listed in column 2 of Table 6 shall be sufficient for the candidate to carry out his duties.

(4) Every candidate shall provide evidence of having achieved the required standard of competence through —

(a) demonstration of competence to perform the tasks and duties and to assume responsibilities listed in column 1 of Table 6, in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of Table 6; and

(b) examination or continuous assessment as part of an approved course of training based on the material set out in column 2 of Table 6.

Guidance regarding minimum standard of competence for officers in charge of engineering watch on ships powered by main propulsion machinery of 750 kW or more.

14. (1) The education and training required by sub-rule (1) of rule 19 of the Examination and Certification Rules in the Second Schedule shall include training in mechanical and electrical workshop skills relevant to the duties of an engineer officer.

(2) Every candidate for certification as officer in charge of an engineering watch in a manned engine room or as designated duty engineer in a periodically unmanned engine room of ships powered by main propulsion machinery of 750 kW or more shall follow an approved programme of on-board training which –

(a) 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, taking into account the guidance specified by the Director;

(b) is closely supervised and monitored by a qualified and certificated engineer officer aboard the ships in which the approved seagoing service is performed; and

(c) is adequately documented in a training record book.

(3) Every candidate for certification as officer in charge of an engineering watch in a manned engine room or as designated duty engineer in a periodically unmanned engine room on a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more shall be required to demonstrate ability to undertake, at the operational level, the tasks, duties and responsibilities listed in column 1 of Table 7 in the Annex.

(4) The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of Table 7.

(5) The level of knowledge of the material listed in column 2 of Table 7 shall be sufficient for engineer officers to carry out their watchkeeping duties.

(6) Training and experience to achieve the necessary theoretical knowledge, understanding and proficiency shall be based on Part 3-2 - Principles to be observed in keeping an engineering watch, documented in the Fourth Schedule.

(7) Candidates for certification for service on ships in which steam boilers do not form part of their machinery may omit the relevant requirements of Table 7. A certificate awarded on such a basis shall not be valid for service on ships in which steam boilers form part of a ship's machinery until the engineer officer meets the standard of competence in the items omitted from Table 7. Any such limitation shall be stated on the certificate and the endorsement.

(8) 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 7.

Guidance regarding minimum standard of competence for chief engineer officers and second engineer officers on ships powered by main propulsion machinery of 3,000 kW propulsion power or more.

15. (1) Every candidate for certification as chief engineer officer and second engineer officer of seagoing ships powered by main propulsion machinery of 3,000 kW power or more, as required by sub-rules (2) and (3) of rule 19 of the Examination and Certification Rules in the Second Schedule, shall be required to demonstrate ability to undertake, at the management level, the tasks, duties and responsibilities listed in column 1 of Table 8 in the Annex.

(2) The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of Table 8. This incorporates, expands and extends in depth the subjects listed in column 2 of Table 7 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 ship's machinery and the protection of the marine environment.

(4) The level of knowledge of the subjects listed in column 2 of Table 8 shall be sufficient to enable the candidate to serve in the capacity of chief engineer officer or second engineer officer.

(5) Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall take into account the relevant requirements of this rule and the guidance specified by the Director.

(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 8.

Guidance regarding minimum standard of competence for chief engineer officers and second engineer officers on ships of between 750 kW and 3,000 kW propulsion power on near-coastal voyages.

16. (1) Every candidate for certification as chief engineer officer and second engineer officer of seagoing ships powered by main propulsion machinery of between 750 kW and 3,000 kW power on near-coastal voyages, as required by

sub-rules (4) and (5) of rule 19 of the Examination and Certification Rules in the Second Schedule, shall be required to demonstrate ability to undertake, at the management level, the tasks, duties and responsibilities listed in column 1 of Table 9 in the Annex.

(2) The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of Table 9. This incorporates, expands and extends in depth the subjects listed in column 2 of Table 7 for officers in charge of an engineering watch in a manned engine room or designated duty engineers in a periodically unmanned engine room.

(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 ship's machinery and the protection of the marine environment.

(4) Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall take into account the relevant requirements of this rule and the guidance specified by the Director.

(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 9.

Guidance regarding minimum requirements for certification of ratings forming part of navigational watch.

17. (1) Every rating forming part of a navigational watch on a seagoing ship of 500 tons or more, as required by sub-rule (1) of rule 23 of the Examination and Certification Rules in the Second Schedule, shall be required to demonstrate the competence to perform the navigation function at the support level, as specified in column 1 of Table 10 in the Annex.

(2) The minimum knowledge, understanding and proficiency required of ratings forming part of a navigational watch on a seagoing ship of 500 tons or more is listed in column 2 of Table 10.

(3) 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 specified in columns 3 and 4 of Table 10. The reference to "practical test" in column 3 may include approved shore-based training in which the students undergo practical testing.

Guidance regarding minimum requirements for certification of ratings forming part of engine room watch.

18. (1) Every rating forming part of an engine room watch on a seagoing ship, as required by sub-rule (2) of rule 23 of the Examination and Certification Rules in the Second Schedule, shall be required to demonstrate the competence to perform the marine engineering function at the support level, as specified in column 1 of Table 11 in the Annex.

(2) The minimum knowledge, understanding and proficiency required of ratings forming part of an engine room watch is listed in column 2 of Table 11.

(3) 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 specified in columns 3 and 4 of Table 11. The reference to "practical test" in column 3 may include approved shore-based training in which the students undergo practical testing.

Guidance regarding minimum requirements for basic safety training.

19. (1) Seafarers shall receive the following approved basic training or instruction required by sub-rule (1) of rule 5 of the Examination and Certification Rules in the Second Schedule —

(a) personal survival techniques as set out in Table 12 in the Annex;

(b) fire prevention and fire-fighting as set out in Table 13 in the Annex;

(c) elementary first aid as set out in Table 14 in the Annex; and

(d) personal safety and social responsibilities as set out in Table 15 in the Annex.

(2) Seafarers shall 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 12, 13, 14 and 15 within the previous 5 years through —

(a) demonstration of competence, in accordance with the methods and the criteria for evaluating competence tabulated in columns 3 and 4 of Tables 12, 13, 14 and 15; and

(b) examination or continuous assessment as part of an approved training programme in the subjects listed in column 2 of Tables 12, 13, 14 and 15.

Guidance regarding minimum requirements for training and qualifications of masters, officers and ratings on tankers.

Tanker Familiarisation Course.

20. (1) The tanker familiarisation course, as required by sub-rule (8) of rule 5 and paragraph (a)(ii) of sub-rule (1) of rule 6 of the Examination and Certification Rules in the Second Schedule, shall cover at least the syllabus given in sub-rules (2) to (7).

Characteristics of cargoes.

(2) An outline treatment including —

(a) practical demonstration of the physical properties of oil, chemicals and gases carried in bulk;

(b) vapour pressure or temperature relationship;

(c) influence of pressure on boiling temperature;

(d) explanation of saturated vapour pressure, diffusion, partial pressure, flammability limits, flashpoint and auto-ignition temperature;

(e) practical significance of flashpoint and lower flammable limit;

(f) simple explanation of types of electrostatic charge generation;

(g) chemical symbols and structures;

(h) elements of the chemistry of acids and bases and chemical reactions of well-known groupings sufficient to enable proper utilisation of codes.

Toxicity.

(3) Simple explanation of principles and basic concepts; toxicity limits, both acute and chronic effects of toxicity, systemic poisons and irritants.

Hazards.

(4) An explanation of hazards, including —

(a) explosion and flammability hazards, flammability limits and sources of ignition and explosion;

(b) health hazards, including —

- (i) the dangers of skin contact, inhalation and ingestion;
- (ii) oxygen deficiency, with particular reference to inert gas systems;
- (iii) harmful properties of cargo carried;
- (iv) accidents to personnel and associated first aid do's and don'ts;

(c) hazards to the environment, covering —

- (i) the effect on human and marine life from the release of oil, chemicals or gases;
- (ii) the effect of specific gravity and solubility;
- (iii) danger from vapour cloud drift;
- (iv) the effect of vapour pressure and atmospheric conditions;

(d) reactivity hazards; self-reaction; polymerisation; effects of temperature; impurities as catalysts; reaction with air, water and other chemicals; and

(e) corrosion hazards, covering —

- (i) the dangers to personnel;
- (ii) attacks on constructional materials;
- (iii) the effects of concentration and evolution of hydrogen.

Hazard control.

(5) Inerting, water padding, drying agents and monitoring techniques; anti-static measures; ventilation; segregation; cargo inhibition and the importance of compatibility of materials.

Safety equipment and protection of personnel.

(6) The function and calibration of measuring instruments and similar equipment; specialised fire-extinguishing appliances; breathing apparatus and tanker evacuating equipment; safe use of protective clothing and equipment; use of resuscitators and other rescue and escape equipment.

Pollution prevention.

(7) Procedures to be followed to prevent air and water pollution and measures to be taken in the event of spillage, including the need to —

(a) immediately report all relevant information to the appropriate officials when a spill is detected or when a malfunction has occurred which poses a risk of a spill;

(b) promptly notify shore-based response personnel; and

(c) properly implement shipboard spill containment procedures.

Oil Tanker Training Programme.

(8) The specialised training programme referred to in paragraph (b)(ii) of sub-rule (1) of rule 6 of the Examination and Certification Rules in the Second Schedule, appropriate to duties on oil tankers, shall provide theoretical and practical knowledge of the subjects specified in sub-rules (9) to (14).

Regulations and codes of practice.

(9) Familiarisation with the appropriate provisions of relevant international conventions; relevant international and national codes; the IMO Manual on Oil Pollution; relevant tanker safety guides and relevant port regulations as commonly applied.

Design and equipment of oil tankers.

(10) Familiarisation with piping, pumping, tank and deck arrangements; types of cargo pumps and their application to various types of cargo; tank cleaning, gas-freeing and inerting systems; cargo tank venting and accommodation ventilation; gauging systems and alarms; cargo heating systems; and the safety aspects of electrical systems.

Cargo characteristics.

(11) Knowledge of the chemical and physical properties of different oil cargoes.

Ship operations.

(12) Cargo calculations; loading and discharging plans; loading and discharge procedures, including ship-to-ship transfers; checklists; use of monitoring equipment; importance of proper supervision of personnel; gas-

freeing operations and tank cleaning operations; where appropriate, crude oil washing procedures and the operation and maintenance of inert gas systems; control of entry into pump-rooms and enclosed spaces; use of gas detecting and safety equipment; load-on-top and proper ballasting and de-ballasting procedures; air and water pollution prevention.

Repair and maintenance.

(13) Precautions to be taken before and during repair and maintenance work, including that affecting pumping, piping, electrical and control systems; safety factors necessary in the performance of hot work; control of hot work and proper hot work procedures.

Emergency operations.

(14) The importance of developing ship emergency plans; cargo operations emergency shutdown; action in the event of failure of services essential to cargo; fire-fighting on oil tankers; action following collision, stranding or spillage; medical first aid procedures and the use of resuscitation equipment; use of breathing apparatus for safe entry into and rescue from enclosed spaces.

Chemical Tanker Training Programme.

(15) The specialised training programme referred to in paragraph (b)(ii) of sub-rule (1) of rule 6 of the Examination and Certification Rules in the Second Schedule, appropriate to duties on chemical tankers, shall provide theoretical and practical knowledge of the subjects specified in sub-rules (16) to (21).

Regulations and codes of practice.

(16) Familiarisation with relevant international conventions, and relevant IMO and national codes and with relevant tanker safety guides and relevant port regulations as commonly applied.

Design and equipment of chemical tankers.

(17) A brief description of specialised piping, pumping and tank arrangements, overflow control; types of cargo pumps and their application to various types of cargo; tank cleaning and gas-freeing systems; cargo tank venting; vapour return systems; accommodation ventilation, airlocks; gauging systems and alarms; tank temperature control systems and alarms; the safety factors of electrical systems.

Cargo characteristics.

(18) Sufficient knowledge of liquid chemical cargo characteristics to allow proper use of relevant cargo safety guides.

Ship operations.

(19) Cargo calculations; loading and discharging plans; loading and discharge procedures; vapour return systems; checklists; use of monitoring equipment; gas-freeing operations and tank cleaning operations, including proper use of absorption and wetting agents and detergents; use and maintenance of inert atmospheres; control of entry into pump-rooms and enclosed spaces; use of detecting and safety equipment; disposal of waste and washings.

Repair and maintenance.

(20) Precautions to be taken before the repair and maintenance of pumping, piping, electrical and control systems.

Emergency operations.

(21) The importance of developing ship emergency plans; cargo operations emergency shutdown; action in the event of failure of services essential to cargo; fire-fighting on chemical tankers; action following collision, stranding or spillage; medical first aid procedures and the use of resuscitation and decontamination equipment; use of breathing apparatus and escape equipment; safe entry into and rescue from enclosed spaces.

Liquefied Gas Tanker Training Programme.

(22) The specialised training programme referred to in paragraph (b)(ii) of sub-rule (1) of rule 6 of the Examination and Certification Rules in the Second Schedule, appropriate to the duties on liquefied gas tankers, shall provide theoretical and practical knowledge of the subjects specified in sub-rules (23) to (34).

Regulations and codes of practice.

(23) Familiarisation with relevant international conventions and relevant IMO, national and industry codes.

(24) Familiarisation with the ship design and equipment of liquefied gas tankers; types of liquefied gas tankers; cargo containment systems (construction, surveys); cargo handling equipment (pumps, piping systems); cargo conditioning systems (warm up, cool down); tank atmosphere control systems (inert gas,

nitrogen); instrumentation of cargo containment and handling systems; fire-fighting system and safety and rescue equipment.

Fire-fighting.

(25) Advanced practical fire-fighting techniques and tactics applicable to gas tankers, including the use of water-spray systems.

Chemistry and physics.

(26) An introduction to basic chemistry and physics as it relates to the safe carriage of liquefied gases in bulk in ships, covering —

(a) the properties and characteristics of liquefied gases and their vapours, including the definition of gas; simple gas laws; the gas equation; density of gases; diffusion and mixing of gases; compression of gases; liquefaction of gases; refrigeration of gases; critical temperature; the practical significance of flashpoint; upper and lower explosive limits; auto-ignition temperature; compatibility of gases; reactivity; polymerisation and inhibitors;

(b) the properties of single liquids, including densities of liquids and vapours; variation with temperature; vapour pressure and temperature; enthalpy; vaporisation and boiling liquids; and

(c) the nature and properties of solutions, including the solubility of gases in liquids; miscibility between liquids and effects of temperature change; densities of solutions and dependence on temperature and concentration; effects of dissolved substances on melting and boiling points; hydrates, their formation and dispersion; hygroscopicity; drying of air and other gases; dew point and low temperature effects.

Health hazards.

(27) Familiarisation with health hazards relevant to the carriage of liquefied gas covering —

(a) toxicity, including the modes by which liquefied gases and their vapours may be toxic; the toxic properties of inhibitors and of products of combustion of both materials of construction and of liquefied gases carried; acute and chronic effects of toxicity, systemic poisons and irritants; and the Threshold Limiting Value (TLV);

(b) hazards of skin contact, inhalation and ingestion; and

(c) medical first aid and administering of antidotes.

Cargo containment.

(28) Principles of containment systems; rules; surveys; tank construction, materials, coatings, insulation and compatibility.

Pollution.

(29) Hazards to human life and to the marine environment; the effect of specific gravity and solubility; danger from vapour cloud drift and the jettisoning of cryogenic liquids.

Cargo handling systems.

(30) A description of the main types of pumps and pumping arrangements and vapour return systems, piping systems and valves; an explanation of pressure, vacuum, suction, flow, head; filters and strainers; expansion devices; flame screens; commonly used inert gases; storage, generation and distribution systems; temperature and pressure monitoring systems; cargo vent systems; liquid re-circulation and re-liquefaction systems; cargo gauging, instrumentation systems and alarms; gas detection and monitoring systems; CO₂ monitoring systems; cargo boil-off systems and auxiliary systems.

Ship operating procedures.

(31) Loading and discharging preparations and procedures; checklists; cargo condition maintenance on passage and in harbour; segregation of cargoes and procedures for cargo transfer; changing cargoes, tank cleaning procedures; cargo sampling; ballasting and de-ballasting; warm up and gas-freeing procedures; and procedures for cool down of a gas-free system from ambient temperature and the safety precautions involved.

Safety practices and equipment.

(32) The function, calibration and use of portable measuring instruments; fire-fighting equipment and procedures; breathing apparatus; resuscitators; escape sets; rescue equipment; protective clothing and equipment; entry into enclosed spaces; precautions to be observed before and during repair and maintenance of cargo and control systems; supervision of personnel during potentially hazardous operations; types and principles of certified safe electrical equipment and sources of ignition.

Emergency procedures.

(33) The importance of developing ship emergency plans; emergency shutdown of cargo operations; emergency cargo valve closing systems; action to be taken in the event of failure of systems or services essential to cargo; and action to be taken following collision or stranding, spillage and envelopment of the ship in toxic or flammable vapour.

General principles of cargo operations.

(34) Inerting cargo tank and void spaces; tank cool down and loading; operations during loaded and ballasted voyages; discharging and tank stripping and emergency procedures, including pre-planned action in the event of leaks, fire, collision, stranding, emergency cargo discharge and personnel casualty.

Guidance regarding minimum requirements for training and qualifications of masters, officers and ratings on ro-ro passenger ships.

Crowd management training.

21. (1) The crowd management training, as required by paragraph (b) of sub-rule (2) of rule 6 of the Examination and Certification Rules in the Second Schedule, for personnel designated on muster lists to assist passengers in emergency situations shall include, but not necessarily be limited to —

- (a) awareness of life-saving appliance and control plans, including —
 - (i) knowledge of muster lists and emergency situations;
 - (ii) knowledge of the emergency exits; and
 - (iii) restrictions on the use of elevators;
- (b) the ability to assist passengers en route to muster and embarkation stations, including —
 - (i) the ability to give clear reassuring orders;
 - (ii) the control of passengers in corridors, staircases and passageways;
 - (iii) maintaining escape routes clear of obstructions;
 - (iv) methods available for evacuation of disabled persons and persons needing special assistance; and

- (v) search of accommodation spaces;
- (c) mustering procedures, including —
 - (i) the importance of keeping order;
 - (ii) the ability to use procedures for reducing and avoiding panic;
 - (iii) the ability to use, where appropriate, passenger lists for evacuation counts; and
 - (iv) the ability to ensure that the passengers are suitably clothed and have donned their life jackets correctly.

Familiarisation training.

(2) The familiarisation training, as required by paragraph (c) of sub-rule (2) of rule 6 of the Examination and Certification Rules in the Second Schedule, shall at least ensure attainment of the abilities that are appropriate to the capacity to be filled and the duties and responsibilities to be taken up, as follows —

Design and operational limitations.

(a) ability to properly understand and observe any operational limitations imposed on the ship, and to understand and apply performance restrictions, including speed limitations in adverse weather, which are intended to maintain the safety of life, ship and cargo;

Procedures for opening, closing and securing hull openings.

(b) ability to apply properly the procedures established for the ship regarding the opening, closing and securing of bow, stern, and side doors and ramps and to correctly operate the related systems;

Legislation, codes and agreements affecting ro-ro passenger ships.

(c) ability to understand and apply international and national requirements for ro-ro passenger ships relevant to the ship concerned and the duties to be performed;

Stability and stress requirements and limitations.

(d) ability to take proper account of stress limitations for sensitive parts of the ship such as bow doors and other closing devices that maintain

watertight integrity and of special stability considerations which may affect the safety of ro-ro passenger ships;

Procedures for the maintenance of special equipment on ro-ro passenger ships.

(e) ability to apply properly the shipboard procedures for maintenance of equipment peculiar to ro-ro passenger ships such as bow, stern and side doors and ramps, scuppers and associated systems;

Loading and cargo securing manuals and calculators.

(f) ability to make proper use of the loading and securing manuals in respect of all types of vehicles and rail cars where applicable, and to calculate and apply stress limitations for vehicle decks;

Dangerous cargo areas.

(g) ability to ensure proper observance of special precautions and limitations applying to designated dangerous cargo areas;

Emergency procedures.

(h) ability to ensure proper application of any special procedures to —

- (i) prevent or reduce the ingress of water on vehicle decks;
- (ii) remove water from vehicle decks; and
- (iii) minimise effects of water on vehicle decks.

Safety training for personnel providing direct service to passengers in passenger spaces.

(3) The additional safety training required by paragraph (d) of sub-rule (2) of rule 6 of the Examination and Certification Rules in the Second Schedule shall at least ensure attainment of the abilities as follows —

Communication.

(a) ability to communicate with passengers during an emergency, taking into account —

- (i) the language or languages appropriate to the principal nationalities of passengers carried on the particular route;
- (ii) the likelihood that an ability to use an elementary English vocabulary for basic instructions can provide a means of communicating with a passenger in need of assistance whether or not the passenger and crew member share a common language;
- (iii) the possible need to communicate during an emergency by some other means such as by demonstration, or hand signals, or calling attention to the location of instructions, muster stations, life-saving devices or evacuation routes, when oral communication is impractical;
- (iv) the extent to which complete safety instructions have been provided to passengers in their native language or languages; and
- (v) the languages in which emergency announcements may be broadcast during an emergency or drill to convey critical guidance to passengers and to facilitate crew members in assisting passengers;

Life-saving appliances.

(b) ability to demonstrate to passengers the use of personal life-saving appliances.

Passenger safety, cargo safety and hull integrity training.

(4) The passenger safety, cargo safety and hull integrity training required by paragraph (e) of sub-rule (2) of rule 6 of the Examination and Certification Rules in the Second Schedule, for masters, chief mates, chief engineer officers, second engineer officers and persons assigned immediate responsibility for embarking and disembarking passengers, loading, discharging or securing cargo or for closing hull openings, shall at least ensure attainment of the abilities that are appropriate to their duties and responsibilities as follows —

Loading and embarkation procedures.

(a) ability to apply properly the procedures established for the ship regarding —

- (i) loading and discharging vehicles, rail cars and other cargo transport units, including related communications;
- (ii) lowering and hoisting ramps;
- (iii) setting up and stowing retractable vehicle decks; and
- (iv) embarking and disembarking passengers, with special attention to disabled persons and persons needing assistance;

Carriage of dangerous goods.

(b) ability to apply any special safeguards, procedures and requirements regarding the carriage of dangerous goods on board ro-ro passenger ships;

Securing cargoes.

(c) ability to —

- (i) apply correctly the provisions of the Code of Safe Practice for Cargo Stowage and Securing to the vehicles, rail cars and other cargo transport units carried; and
- (ii) use properly the cargo securing equipment and materials provided, taking into account their limitations;

Stability, trim and stress calculations.

(d) ability to —

- (i) make proper use of the stability and stress information provided;
- (ii) calculate stability and trim for different conditions of loading using the stability calculators or computer programmes provided;
- (iii) calculate load factors for decks; and
- (iv) calculate the impact of ballast and fuel transfers on stability, trim and stress;

Opening, closing and securing hull openings.

(e) ability to —

- (i) apply properly the procedures established for the ship regarding the opening, closing and securing of bow, stern and side doors and ramps and to correctly operate the associated systems; and
- (ii) conduct surveys on proper sealing;

Ro-ro deck atmosphere.

(f) ability to —

- (i) use equipment, where carried, to monitor atmosphere in ro-ro cargo spaces; and
- (ii) apply properly the procedures established for the ship for ventilation of ro-ro cargo spaces during loading and discharging of vehicles, while on voyage and during emergencies.

Crisis management and human behaviour training.

(5) The crisis management and human behaviour training as shown in Table 16 in the Annex and required by paragraph *(f)* of sub-rule (2) of rule 6 of the Examination and Certification Rules in the Second Schedule, for masters, chief mates, chief engineer officers, second engineer officers and any person having responsibility for the safety of passengers in emergency situations shall be to the satisfaction of the Director based on standards developed by IMO.

Guidance regarding minimum requirements for training and qualifications of masters, officers and ratings on passenger ships other than ro-ro passenger ships.

Crowd management training.

22. (1) The crowd management training required by paragraph *(b)* of sub-rule (3) of rule 6 of the Examination and Certification Rules in the Second Schedule, for personnel designated on muster lists to assist passengers in emergency situations shall include, but not necessarily be limited to —

- (a)* awareness of life-saving appliance and control plans, including —
 - (i) knowledge of muster lists and emergency instructions;

- (ii) knowledge of the emergency exits; and
- (iii) restrictions on the use of elevators;
- (b) (i) the ability to give clear reassuring orders;
- (ii) the control of passengers in corridors, staircases and passageways;
- (iii) maintaining escape routes clear of obstructions;
- (iv) methods available for evacuation of disabled persons and persons needing special assistance; and
- (v) search of accommodation spaces;
- (c) mustering procedures, including —
 - (i) the importance of keeping order;
 - (ii) the ability to use procedures for reducing and avoiding panic;
 - (iii) the ability to use, where appropriate, passenger lists for evacuation counts; and
 - (iv) the ability to ensure that the passengers are suitably clothed and have donned their life jackets correctly.

Familiarisation training.

{2} The familiarisation training required by paragraph (c) of sub-rule (3) of rule 6 of the Examination and Certification Rules in the Second Schedule shall at least ensure attainment of the abilities that are appropriate to the capacity to be filled and the duties and responsibilities to be taken up, as follows —

Design and operational limitations.

(a) ability to properly understand and observe any operational limitations imposed on the ship, and to understand and apply performance restrictions, including speed limitations in adverse weather, which are intended to maintain the safety of life and the ship.

Safety training for personnel providing direct service to passengers in passenger spaces.

(3) The additional safety training required by paragraph (d) of sub-rule (3) of rule 6 of the Examination and Certification Rules in the Second Schedule shall at least ensure attainment of the abilities as follows –

Communication.

(a) ability to communicate with passengers during an emergency, taking into account –

- (i) the language or languages appropriate to the principal nationalities of passengers carried on the particular route;
- (ii) the likelihood that an ability to use an elementary English vocabulary for basic instructions can provide a means of communicating with a passenger in need of assistance whether or not the passenger and crew member share a common language;
- (iii) the possible need to communicate during an emergency by some other means such as by demonstration, or hand signals, or calling attention to the location of instructions, muster stations, life-saving devices or evacuation routes, when oral communication is impractical;
- (iv) the extent to which complete safety instructions have been provided to passengers in their native language or languages; and
- (v) the languages in which emergency announcements may be broadcast during an emergency or drill to convey critical guidance to passengers and to facilitate crew members in assisting passengers;

Life-saving appliances.

(b) ability to demonstrate to passengers the use of personal life-saving appliances.

Passenger safety.

(4) The passenger safety training required by paragraph (e) of sub-rule (3) of rule 6 of the Examination and Certification Rules in the Second Schedule, for masters, chief mates, and persons assigned immediate responsibility for

embarking and disembarking passengers, shall at least ensure attainment of the abilities that are appropriate to their duties and responsibilities to embark and disembark passengers, with special attention to disabled persons and persons needing assistance.

Crisis management and human behaviour training.

(5) The crisis management and human behaviour training required by paragraph (f) of sub-rule (3) of rule 6 of the Examination and Certification Rules in the Second Schedule, for masters, chief mates, chief engineer officers, second engineer officers and any person having responsibility for the safety of passengers in emergency situations shall –

(a) have successfully completed the approved crisis management and human behaviour training required by sub-rule (5) of rule 21, in accordance with their capacity, duties and responsibilities as set out in Table 16 in the Annex; and

(b) be required to provide evidence that the required standard of competence has been achieved in accordance with the methods and the criteria for evaluating competence tabulated in columns 3 and 4 of Table 16.

Guidance regarding minimum requirements for proficiency in survival craft and rescue boats other than fast rescue boats.

23. (1) Every candidate for a certificate of proficiency in survival craft and rescue boats other than fast rescue boats, as required by paragraph (a)(iii) of sub-rule (5) of rule 5 of the Examination and Certification Rules in the Second Schedule, shall be required to demonstrate competence to undertake the tasks, duties and responsibilities listed in column 1 of Table 17 in the Annex.

(2) The level of knowledge of the subjects listed in column 2 of Table 17 shall be sufficient to enable the candidate to launch and take charge of a survival craft or rescue boat in emergency situations.

(3) Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall take account of the guidance specified by the Director.

(4) Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence within the previous 5 years through –

(a) demonstration of competence to undertake the tasks, duties and responsibilities listed in column 1 of Table 17, in accordance with the

methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of Table 17; and

(b) examination or continuous assessment as part of an approved training programme covering the material set out in column 2 of Table 17.

Guidance regarding minimum requirements for proficiency in fast rescue boats.

24. (1) Every candidate for a certificate of proficiency in fast rescue boats, as required by paragraph (b)/(iii) of sub-rule (5) of rule 5 of the Examination and Certification Rules in the Second Schedule, shall be required to demonstrate competence to undertake the tasks, duties and responsibilities listed in column 1 of Table 18 in the Annex.

(2) The level of knowledge of the subjects listed in column 2 of Table 18 shall be sufficient to enable the candidate to launch and take charge of a fast rescue boat in emergency situations.

(3) Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall take account of the guidance specified by the Director.

(4) Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence within the previous 5 years through —

(a) demonstration of competence to undertake the tasks, duties and responsibilities listed in column 1 of Table 18, in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of Table 18; and

(b) examination or continuous assessment as part of an approved training programme covering the material set out in column 2 of Table 18.

Guidance regarding minimum requirements for advanced fire-fighting.

25. (1) Seafarers designated to control fire-fighting operations, as required by sub-rule (4) of rule 5 of the Examination and Certification Rules in the Second Schedule, shall have successfully completed advanced training in techniques for fighting fire, with particular emphasis on organisation, tactics and command, and shall be required to demonstrate competence to undertake the tasks, duties and responsibilities listed in column 1 of Table 19 in the Annex.

(2) The level of knowledge and understanding of the subjects listed in column 2 of Table 19 shall be sufficient for the effective control of fire-fighting operations on board ship.

(3) Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall take account of the guidance specified by the Director.

(4) Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence within the previous 5 years, in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of Table 19.

Guidance regarding minimum requirements for seafarers designated to provide medical first aid on board ship.

26. (1) Every seafarer who is designated to provide medical first aid on board ship, as required by sub-rule (2) of rule 5 of the Examination and Certification Rules in the Second Schedule, shall be required to demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of Table 20 in the Annex.

(2) The level of knowledge of the subjects listed in column 2 of Table 20 shall be sufficient to enable the designated seafarer to take immediate effective action in the case of accidents or illness likely to occur on board ship.

(3) Every candidate for certification under sub-rule (2) of rule 5 of the Examination and Certification Rules in the Second Schedule shall be required to provide evidence that the required standard of competence has been achieved in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of Table 20.

Guidance regarding minimum requirements for persons in charge of medical care on board ship.

27. (1) Every seafarer who is designated to take charge of medical care on board ship, as required by sub-rule (3) of rule 5 of the Examination and Certification Rules in the Second Schedule, shall be required to demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of Table 21 in the Annex.

(2) The level of knowledge of the subjects listed in column 2 of Table 21 shall be sufficient to enable the designated seafarer to take immediate effective action in the case of accidents or illness likely to occur on board ship.

(3) Every candidate for certification under sub-rule (3) of rule 5 of the Examination and Certification Rules in the Second Schedule shall be required to provide evidence that the required standard of competence has been achieved in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of Table 21.

ANNEX

TABLE 1
(Table A-II/1 of the STCW Code)

rule 9

Specification of minimum standard of competence for officers in charge of a navigational watch on ships of 500 tons or more

Function: Navigation 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
Plan and conduct a passage and determine position	<p><i>Celestial navigation</i> Ability to use celestial bodies to determine the ship's position</p> <p><i>Terrestrial and coastal navigation</i> Ability to determine the ship's position by use of —</p> <ol style="list-style-type: none"> 1. landmarks 2. aids to navigation, including light-houses, beacons and buoys 3. dead reckoning, taking into account winds, tides, currents and estimated speed 	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved laboratory equipment training <p>using: chart catalogues, charts, navigational publications, radio navigational warnings, sextant, azimuth mirror, electronic navigation equipment, echo-sounding equipment, compass</p>	<p>The information obtained from navigational charts and publications is relevant, interpreted correctly and properly applied. All potential navigational hazards are accurately identified</p> <p>The primary method of fixing the ship's position is the most appropriate to the prevailing circumstances and conditions</p> <p>The position is determined within the limits of acceptable instrument or system errors</p> <p>The reliability of the information obtained from the primary method of position fixing is checked at appropriate intervals</p> <p>Calculations and measurements of navigational information are accurate</p>

TABLE 1 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>Thorough knowledge of and ability to use navigational charts and publications, such as sailing directions, tide tables, notices to mariners, radio navigational warnings and ships' routing information</p> <p><i>Note:</i> ECDIS systems are considered to be included under the term "charts"</p> <p><i>Electronic systems of position fixing and navigation</i> Ability to determine the ship's position by use of electronic navigational aids</p> <p><i>Echo-sounders</i> Ability to operate the equipment and apply the information correctly</p> <p><i>Compass – magnetic and gyro</i> Knowledge of the principles of magnetic and gyro-compasses</p> <p>Ability to determine errors of the magnetic and gyro-compasses, using celestial and terrestrial means, and to allow for such errors</p> <p><i>Steering control systems</i> Knowledge of steering control systems, operational procedures and change-over from manual to automatic control and vice</p>		<p>The charts selected are the largest scale suitable for the area of navigation and charts and publications are corrected in accordance with the latest information available</p> <p>Performance checks and tests to navigation systems comply with manufacturer's recommendations and good navigational practice</p> <p>Errors in magnetic and gyro-compasses are determined and correctly applied to courses and bearings</p> <p>The selection of the mode of steering is the most suitable for the prevailing weather, sea and traffic conditions and intended manoeuvres</p>

TABLE 1 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>versa. Adjustment of controls for optimum performance</p> <p><i>Meteorology</i> Ability to use and interpret information obtained from shipborne meteorological instruments</p> <p>Knowledge of the characteristics of the various weather systems, reporting procedures and recording systems</p> <p>Ability to apply the meteorological information available</p>		<p>Measurements and observations of weather conditions are accurate and appropriate to the passage</p> <p>Meteorological information is correctly interpreted and applied</p>
Maintain a safe navigational watch	<p><i>Watchkeeping</i> Thorough knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea</p> <p>Thorough knowledge of the Principles to be observed in keeping a navigational watch</p> <p>Thorough knowledge of effective bridge teamwork procedures</p> <p>The use of routeing in accordance with the General Provisions on Ships' Routing</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved laboratory equipment training 	<p>The conduct, handover and relief of the watch conforms with accepted principles and procedures</p> <p>A proper look-out is maintained at all times and in such a way as to conform to accepted principles and procedures</p> <p>Lights, shapes and sound signals conform with the requirements contained in the International Regulations for Preventing Collisions at Sea and are correctly recognised</p> <p>The frequency and extent of monitoring of traffic, the ship and the environment conform with accepted principles and procedures</p>

TABLE 1 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
			<p>A proper record is maintained of the movements and activities relating to the navigation of the ship</p> <p>Responsibility for the safety of navigation is clearly defined at all times, including periods where the master is on the bridge and while under pilotage</p>
<p>Use of radar and ARPA to maintain safety of navigation</p> <p><i>Note:</i> Training and assessment in the use of ARPA is not required for those who serve exclusively on ships not fitted with ARPA. This limitation shall be reflected in the endorsement issued to the seafarer concerned</p>	<p><i>Radar navigation</i></p> <p>Knowledge of the fundamentals of radar and automatic radar plotting aids (ARPA)</p> <p>Ability to operate and to interpret and analyse information obtained from radar, including the following —</p> <p>Performance, including —</p> <ol style="list-style-type: none"> 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 search and rescue transponders (SARTs) <p>Use, including —</p> <ol style="list-style-type: none"> 1. range and bearing; course and speed of other ships; time and distance of closest approach of crossing, meeting overtaking ships 	<p>Assessment of evidence obtained from approved radar simulator and ARPA simulator training plus in-service experience</p>	<p>Information obtained from radar and ARPA is correctly interpreted and analysed, taking into account the limitations of the equipment and prevailing circumstances and conditions</p> <p>Action taken to avoid a close encounter or collision with other vessels is in accordance with the International Regulations for Preventing Collisions at Sea</p> <p>Decisions to amend course or speed or both are both timely and in accordance with accepted navigation practice</p> <p>Adjustments made to the ship's course and speed maintain safety of navigation</p> <p>Communication is clear, concise and acknowledged at all times in a seamanlike manner</p>

TABLE 1 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>2. identification of critical echoes; detecting course and speed changes of other ships; effect of changes in own ship's course or speed or both</p> <p>3. application of the International Regulations for Preventing Collisions at Sea</p> <p>4. plotting techniques and relative and true motion concepts</p> <p>5. parallel indexing</p> <p>Principal types of ARPA, their display characteristics, performance standards and the dangers of over-reliance on ARPA</p> <p>Ability to operate and to interpret and analyse information obtained from ARPA, including —</p> <ol style="list-style-type: none"> 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 		<p>Manoeuvring signals are made at the appropriate time and are in accordance with the International Regulations for Preventing Collisions at Sea</p>

TABLE 1 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Respond to emergencies	<p><i>Emergency procedures</i> Precautions for the protection and safety of passengers in emergency situations</p> <p>Initial action to be taken following a collision or a grounding; initial damage assessment and control</p> <p>Appreciation of the procedures to be followed for rescuing persons from the sea, assisting a ship in distress, responding to emergencies which arise in port</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. practical training 	<p>The type and scale of the emergency is promptly identified</p> <p>Initial actions and, if appropriate, manoeuvring of the ship are in accordance with contingency plans and are appropriate to the urgency of the situation and nature of the emergency</p>
Respond to a distress signal at sea	<p><i>Search and rescue</i> Knowledge of the contents of the IMO Merchant Ship Search and Rescue Manual (MERSAR)</p>	<p>Examination and assessment of evidence obtained from practical instruction or approved simulator training, where appropriate</p>	<p>The distress or emergency signal is immediately recognised</p> <p>Contingency plans and instructions in standing orders are implemented and complied with</p>
Use the Standard Marine Navigational Vocabulary as replaced by the IMO Standard Marine Communication Phrases and use English in written and oral form	<p><i>English language</i> Adequate knowledge of the English language to enable the officer to use charts and other nautical publications, to understand meteorological information and messages concerning ship's safety and operation, to communicate with other ships and coast stations and to perform the officer's duties also with a multilingual crew, including the ability to use and understand the Standard Marine Navigational Vocabulary as replaced by the IMO</p>	<p>Examination and assessment of evidence obtained from practical instruction</p>	<p>English language navigational publications and messages relevant to the safety of the ship are correctly interpreted or drafted</p> <p>Communications are clear and understood</p>

TABLE 1 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	Standard Marine Communication Phrases		
Transmit and receive information by visual signaling	<i>Visual signaling</i> Ability to transmit and receive signals by Morse light Ability to use the International Code of Signals	Assessment of evidence obtained from practical instruction	Communications within the operator's area of responsibility are consistently successful
Manoeuvre the ship	<i>Ship manoeuvring and handling</i> Knowledge of — 1. the effects of deadweight, draught, trim, speed and underkeel clearance on turning circles and stopping distances 2. the effects of wind and current on ship handling 3. manoeuvres and procedures for the rescue of person overboard 4. squat, shallow-water and similar effects 5. proper procedures for anchoring and mooring	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved training on a manned scale ship model, where appropriate	Safe operating limits of ship propulsion, steering and power systems are not exceeded in normal manoeuvres Adjustments made to the ship's course and speed maintain safety of navigation

Function: Cargo handling and stowage at the operational level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Monitor the loading, stowage, securing and unloading of car-	<i>Cargo handling, storage and securing</i> Knowledge of the effect of cargo including heavy lifts on the seaworthiness and stability of the ship	Examination and assessment of evidence obtained from one or more of the following —	Cargo operations are carried out in accordance with the cargo plan or other documents and established safety rules or regulations, equipment operating instruc-

TABLE 1 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
goes and their care during the voyage	<p>Knowledge of safe handling, stowage and securing of cargoes including dangerous, hazardous and harmful cargoes and their effect on the safety of life and of the ship</p> <p>Ability to establish and maintain effective communications during loading and unloading</p>	<ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>tions and shipboard stowage limitations</p> <p>The handling of dangerous, hazardous and harmful cargoes complies with international regulations and recognised standards and codes of safe practice</p> <p>Communications are clear, understood and consistently successful</p>
Inspect and report defects and damage to cargo spaces, hatch covers and ballast tanks	<p>Knowledge* and ability to explain where to look for damage and defects most commonly encountered due to —</p> <ol style="list-style-type: none"> 1. loading and unloading operations 2. corrosion 3. severe weather conditions <p>Ability to state which parts of the ship shall be inspected each time in order to cover all parts within a given period of time</p> <p>Identify those elements of the ship structure which are critical to the safety of the ship</p> <p>State the causes of corrosion in cargo spaces and ballast tanks and how corrosion can be identified and prevented</p> <p>Knowledge of procedures on how the inspections shall be carried out</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>The inspections are carried out in accordance with laid-down procedures and defects and damages are detected and properly reported</p> <p>Where no defects or damage are detected, the evidence from testing and examination clearly indicates adequate competence in adhering to procedures and ability to distinguish between normal and defective parts of the ship</p>

TABLE 1 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	Ability to explain how to ensure reliable detection of defects and damages Understand of the purpose of the "enhanced survey programme"		

* It should be understood that deck officers need not be qualified in the survey of ships.

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

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Ensure compliance with pollution-prevention requirements	<i>Prevention of pollution of the marine environment and anti-pollution procedures</i> Knowledge of the precautions to be taken to prevent pollution of the marine environment Anti-pollution procedures and all associated equipment	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved training ship experience	Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed
Maintain seaworthiness of the ship	<i>Ship stability</i> Working knowledge and application of stability, trim and stress tables, diagrams and stress-calculating equipment Understanding of fundamental actions to be taken in the event of partial loss of intact buoyancy	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved laboratory equipment training	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 ship are in accordance with accepted practice

TABLE 1 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>Understanding of the fundamentals of watertight integrity</p> <p><i>Ship construction</i> General knowledge of the principal structural members of a ship and the proper names for the various parts</p>		
Prevent, control and fight fires on board	<p><i>Fire prevention and fire-fighting appliances</i> Knowledge of fire prevention</p> <p>Ability to organise fire drills</p> <p>Knowledge of classes and chemistry of fire</p> <p>Knowledge of fire-fighting systems</p> <p>Knowledge of action to be taken in the event of fire, including fires involving oil systems</p>	Assessment of evidence obtained from approved fire-fighting training and experience as set out in section A-VI/3 of the STCW Code	<p>The type and scale of the problem is promptly identified and initial actions conform with the emergency procedure and contingency plans for the ship</p> <p>Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly</p> <p>The order of priority, and the levels and time-scales of making reports and informing personnel on board, are relevant to the nature of the emergency and reflect the urgency of the problem</p>
Operate life-saving appliances	<p><i>Life-saving</i> Ability to organise 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, satellite emergency position indicating radio beacons (EPIRBs), SARTs,</p>	Assessment of evidence obtained from approved training and experience as set out in paragraphs 1 to 4 of section A-VI/2 of the STCW Code	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

TABLE 1 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	immersion suits and thermal protective aids Knowledge of survival at sea techniques		
Apply medical first aid on board ship	<i>Medical aid</i> Practical application of medical guides and advice by radio, including the ability to take effective action based on such knowledge in the case of accidents or illnesses that are likely to occur on board ship	Assessment of evidence obtained from approved training as set out in paragraphs 1 to 3 of section A-VI/4 of the STCW Code	The identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimises immediate threat to life
Monitor compliance with legislative requirements	Basic working knowledge of the relevant IMO conventions 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

TABLE 2
(Table A-II/2 of the STCW Code)

Specification of minimum standard of competence for masters and chief mates on ships of 500 tons or more on unlimited voyages

Function: Navigation at the management level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Plan a voyage and conduct navigation	<p>Voyage planning and navigation for all conditions by acceptable methods of plotting ocean tracks, taking into account, e.g. —</p> <ol style="list-style-type: none"> 1. restricted waters 2. meteorological conditions 3. ice 4. restricted visibility 5. traffic separation schemes 6. areas of extensive tidal effects <p>Routeing in accordance with the General Principles on Ships' Routeing</p> <p>Reporting in accordance with the Guidelines and Criteria for Ship Reporting Systems</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved simulator training, where appropriate 3. approved laboratory equipment training <p>using: chart catalogues, charts, nautical publications and ship particulars</p>	<p>The equipment, charts and nautical publications required for the voyage are enumerated and appropriate to the safe conduct of the voyage</p> <p>The reasons for the planned route are supported by facts and statistical data obtained from relevant sources and publications</p> <p>Positions, courses, distances and time calculations are correct within accepted accuracy standards for navigational equipment</p> <p>All potential navigational hazards are accurately identified</p>
Determine position and the accuracy of resultant position fix by any means	<p><i>Position determination in all conditions —</i></p> <ol style="list-style-type: none"> 1. by celestial observations 2. by terrestrial observations, including the ability to use appropriate charts, notices to mariners and other publications to assess the accuracy of the resulting position fix 	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved simulator training, where appropriate 	<p>The primary method chosen for fixing the ship's position is the most appropriate to the prevailing circumstances and conditions</p> <p>The fix obtained by celestial observations is within accepted accuracy levels</p>

TABLE 2 – (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	3. using modern electronic navigational aids, with specific knowledge of their operating principles, limitations, sources of error, detection of misrepresentation of information and methods of correction to obtain accurate position fixing	3. approved laboratory equipment training using – 1. charts, nautical almanac, plotting sheers, chronometer, sextant and a calculator 2. charts, navigational publications and instruments (azimuth mirror, sextant, log, sounding equipment, compass) and manufacturers' manuals 3. radar, Decca, Loran, satellite navigation systems and appropriate navigational charts and publications	The fix obtained by terrestrial observations is within 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 minimising the effects of system errors on the resulting position are properly applied
Determine and allow for compass errors	Ability to determine and allow for errors of the magnetic and gyro-compasses Knowledge of the principles of magnetic and gyro-compasses An understanding of systems under the control of the master gyro and a knowledge of the operation and care of the main types of gyro-compass	Examination and assessment of evidence obtained from one or more of the following – 1. approved in-service experience 2. approved simulator training, where appropriate 3. 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 magnetic and gyro-compasses ensures accuracy of information

TABLE 2 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Co-ordinate search and rescue operations	A thorough knowledge of and ability to apply the procedures contained in the IMO Merchant Ship Search and Rescue Manual (MERSAR)	Examination and assessment of evidence obtained from one or more of the following — <ol style="list-style-type: none"> 1. approved in-service experience 2. approved simulator training, where appropriate 3. approved laboratory equipment training <p>using: relevant publications, charts, meteorological data, particulars of ships involved, radio communication equipment and other available facilities and one or more of the following —</p> <ol style="list-style-type: none"> 1. approved SAR training course 2. approved simulator training, where appropriate 3. approved laboratory equipment training 	The plan for co-ordinating search and rescue operations is in accordance with international guidelines and standards Radio communications are established and correct communication procedures are followed at all stages of the search and rescue operations
Establish watchkeeping arrangements and procedures	Thorough knowledge of content, application and intent of the International Regulations for Preventing Collisions at Sea Thorough knowledge of the content, application and intent of the Principles to be observed in keeping a navigational watch Effective bridge teamwork procedures	Examination and assessment of evidence obtained from one or more of the following — <ol style="list-style-type: none"> 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 ship and persons on board

TABLE 2 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Maintain safe navigation through the use of radar and ARPA and modern navigation systems to assist command decision-making</p> <p><i>Note:</i> Training and assessment in the use of ARPA is not required for those who serve exclusively on ships not fitted with ARPA. This limitation shall be reflected in the endorsement issued to the seafarer concerned</p>	<p>An appreciation of system errors and thorough understanding of the operational aspects of modern navigational systems, including radar and ARPA</p> <p>Blind pilotage techniques</p> <p>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 ship</p> <p>The inter-relationship and optimum use of all navigational data available for conducting navigation</p>	<p>Assessment of evidence obtained from approved radar simulator and ARPA simulator training</p>	<p>Information obtained from radar and ARPA is correctly interpreted and analysed, taking into account the limitations of the equipment and prevailing circumstances and conditions</p> <p>Action taken to avoid a close encounter or collision with another vessel is in accordance with the International Regulations for Preventing Collisions at Sea</p>
<p>Forecast weather and oceanographic conditions</p>	<p>Ability to understand and interpret a synoptic chart and to forecast area weather, taking into account local weather conditions and information received by weather fax</p> <p>Knowledge of the characteristics of various weather systems, including of tropical revolving storms and avoidance</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved laboratory equipment training 	<p>The likely weather conditions predicted for a determined period are based on all available information</p> <p>Actions taken to maintain safety of navigation minimise any risk to safety of the ship</p>

TABLE 2 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>of storm centres and the dangerous quadrants</p> <p>Knowledge of ocean current systems</p> <p>Ability to calculate tidal conditions</p> <p>Use all appropriate navigational publications on tides and currents</p>		Reasons for intended action are backed by statistical data and observations of the actual weather conditions
Respond to navigational emergencies	<p>Precautions when beaching a ship</p> <p>Action to be taken if grounding is imminent, and after grounding</p> <p>Refloating a grounded ship with and without assistance</p> <p>Action to be taken if collision is imminent and following a collision or impairment of the watertight integrity of the hull by any cause</p> <p>Assessment of damage control</p> <p>Emergency steering</p> <p>Emergency towing arrangements and towing procedures</p>	Examination and assessment of evidence obtained from practical instruction, in-service experience and practical drills in emergency procedures	<p>The type and scale of any problem is promptly identified and decisions and actions minimise the effects of any malfunction of the ship's system</p> <p>Communications are effective and comply with established procedures</p> <p>Decisions and actions maximise safety of persons on board</p>

TABLE 2 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Manoeuvre and handle a ship in all conditions</p>	<p>Manoeuvring and handling a ship in all conditions, including —</p> <ol style="list-style-type: none"> 1. manoeuvres when approaching pilot stations and embarking or disembarking pilots, with due regard to weather, tide, headreach and stopping distances 2. handling ship in rivers, estuaries and restricted waters, having regard to the effects of current, wind and restricted water on helm response 3. application of constant rate of turn techniques 4. manoeuvring in shallow water, including the reduction in underkeel clearance caused by squat, rolling and pitching 5. interaction between passing ships and between own ship and nearby banks (canal effect) 6. berthing and unberthing under various conditions of wind, tide and current with and without tugs 7. ship and tug interaction 8. use of propulsion and manoeuvring systems 9. choice of anchorage; anchoring with one or 2 anchors in limited anchorage and factors involved in determining the length of anchor cable to be used 10. dragging anchor; clearing fouled anchors 	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved simulator training, where appropriate 3. approved manned scale ship model, where appropriate 	<p>All decisions concerning berthing and anchoring are based on a proper assessment of the ship's manoeuvring and engine characteristics and the forces to be expected while berthed alongside or lying at anchor</p> <p>While under way, a full assessment is made of possible effects of shallow and restricted waters, ice, banks, tidal conditions, passing ships and own ship's bow and stern wave so that the ship can be safely manoeuvred under various conditions of loading and weather</p>

TABLE 2 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<ol style="list-style-type: none"> 11. dry-docking, both with and without damage 12. management and handling of ships in heavy weather, including assisting a ship or aircraft in distress; towing operations; means of keeping an unmanageable ship out of trough of the sea; lessening drift and use of oil 13. precautions in manoeuvring to launch rescue boats or survival craft in bad weather 14. methods of taking on board survivors from rescue boats and survival craft 15. ability to determine the manoeuvring and propulsion characteristics of common types of ships with special reference to stopping distances and turning circles at various draughts and speeds 16. importance of navigating at reduced speed to avoid damage caused by own ship's bow wave and stern wave 17. practical measures to be taken when navigating in or near ice or in conditions of ice accumulation on board 18. use of, and manoeuvring in and near, traffic separation schemes and in vessel traffic service (VTS) areas 		

TABLE 2 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Operate remote controls of propulsion plant and engineering systems and services	Operating principles of marine power plants Ships' 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 simulator training, where appropriate	Plant, auxiliary machinery and equipment is operated in accordance with technical specifications and within safe operating limits at all times

Function: Cargo handling and stowage at the management level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes	Knowledge of and ability to apply relevant international regulations, codes and standards concerning the safe handling, stowage, securing and transport of cargoes Knowledge of the effect on trim and stability of cargoes and cargo operations Use of stability and trim diagrams and stress-calculating equipment, including automatic data-based (ADB) equipment, and knowledge of loading cargoes and ballasting in order to keep hull stress within acceptable limits Stowage and securing of cargoes on board ships, including cargo handling gear and securing and lashing equipment	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved simulator training, where appropriate using: stability, trim and stress tables, diagrams and stress-calculating equipment	The frequency and extent of cargo condition monitoring is appropriate to its nature and prevailing conditions Unacceptable or unforeseen variations in the condition or specification of the cargo is promptly recognised and remedial action is immediately taken and designed to safeguard the safety of the ship and those on board Cargo operations are planned and executed in accordance with established procedures and legislative requirements Stowage and securing of cargoes ensures that stability and stress conditions remain within safe limits at all times during the

TABLE 2 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>Loading and unloading operations, with special regard to the transport of cargoes identified in the Code of Safe Practice for Cargo Stowage and Securing</p> <p>General knowledge of tankers and tanker operations</p> <p>Knowledge of the operational and design limitations of bulk carriers</p> <p>Ability to use all available shipboard data related to loading, care and unloading of bulk cargoes</p> <p>Ability to establish procedures for safe cargo handling in accordance with the provisions of the relevant instruments such as BC Code, IMDG Code, MARPOL 73/78, Annexes III and V and other relevant information</p> <p>Ability to explain basic principle for establishing effective communications and improving work relationship between ship and terminal personnel</p>		vogage

TABLE 2 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Assess reported defects and damages to cargo spaces, hatch covers and ballast tanks and take appropriate action	<p>Knowledge of the limitations on strength of the vital constructional parts of a standard bulk carrier and ability to interpret given figures for bending moments and shear forces</p> <p>Ability to explain how to avoid the detrimental effects on bulk carriers of corrosion, fatigue and inadequate cargo handling</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved simulator training, where appropriate <p>using: stability, trim and stress tables, diagrams and stress-calculating equipment</p>	<p>Evaluations are based on accepted principles, well-founded arguments and correctly carried out. The decisions taken are acceptable, taking into consideration the safety of the ship and the prevailing conditions</p>
Carriage of dangerous cargoes	<p>International regulations, standards, codes and recommendations on the carriage of dangerous cargoes, including the International Maritime Dangerous Goods (IMDG) Code and the Code of Safe Practice for Solid Bulk Cargoes (BC Code)</p> <p>Carriage of dangerous, hazardous and harmful cargoes; precautions during loading and unloading and care during the voyage</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved simulator training, where appropriate 3. approved specialist training 	<p>Planned distribution of cargo is based on reliable information and is in accordance with established guidelines and legislative requirements</p> <p>Information on dangers, hazards and special requirements is recorded in a format suitable for easy reference in the event of an incident</p>

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

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Control trim, stability and stress	Understanding of fundamental principles of ship construction and the theories and factors affecting trim and stability and	Examination and assessment of evidence obtained from one or more of the following —	Stability and stress conditions are maintained within safe limits at all times

TABLE 2 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>measures necessary to preserve trim and stability</p> <p>Knowledge of the effect on trim and stability of a ship in the event of damage to and consequent flooding of a compartment and countermeasures to be taken</p> <p>Knowledge of IMO recommendations concerning ship stability</p>	<ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	
Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea and the protection of the marine environment	<p>Knowledge of international maritime law embodied in international agreements and conventions</p> <p>Regard shall be paid especially to the following subjects —</p> <ol style="list-style-type: none"> 1. certificates and other documents required to be carried on board ships by international conventions, how they may be obtained and their period of validity 2. responsibilities under the relevant requirements of the International Convention on Load Lines 3. responsibilities under the relevant requirements of the International Convention for the Safety of Life at Sea 4. responsibilities under the International Convention for the Prevention of Pollution from Ships 	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>Procedures for monitoring operations and maintenance comply with legislative requirements</p> <p>Potential non-compliance is promptly and fully identified</p> <p>Planned renewal and extension of certificates ensure continued validity of surveyed items and equipment</p>

TABLE 2 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	5. maritime declarations of health and the requirements of the International Health Regulations 6. responsibilities under international instruments affecting the safety of the ship, passengers, crew and cargo 7. methods and aids to prevent pollution of the marine environment by ships 8. national legislation for implementing international agreements and conventions		
Maintain safety and security of the ship's crew and passengers and the operational condition of life-saving, fire-fighting and other safety system	A thorough knowledge of life-saving appliance regulations (International Convention for the Safety of Life at Sea) Organisation of fire and abandon ship drills Maintenance of operational condition of life-saving, fire-fighting and other safety systems Actions to be taken to protect and safeguard all persons on board in emergencies Actions to limit damage and save the ship following a fire, explosion, collision or grounding	Examination and assessment of evidence obtained from practical instruction and approved in-service training and experience	Procedures for monitoring fire-detection and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established emergency procedures

TABLE 2 — (continued)

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	Preparation of contingency plans for response to emergencies Ship 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
Organise and manage the crew	A knowledge of personnel management, organisation and training on board ship A knowledge of related international maritime conventions and recommendations, and national legislation	Examination and assessment of evidence obtained from approved in-service training and experience	The crew are allocated duties and informed of expected standards of work and behaviour in a manner appropriate to the individuals concerned Training objectives and activities are based on an assessment of current competence and capabilities and operational requirements
Organise and manage the provision of medical care on board	A thorough knowledge of the use and contents of the following publications — 1. International Medical Guide for Ships or equivalent national publications 2. Medical section of the International Code of Signals 3. Medical First Aid Guide for Use in Accidents Involving Dangerous Goods	Examination and assessment of evidence obtained from approved training	Action taken and procedures followed correctly apply and make full use of advice available

TABLE 3

(Based on regulation II/2 of the Convention and Table A-II/2 of the STCW Code)

**Specification of minimum standard of competence for masters and chief mates on ships
of between 500 and 3,000 tons on near-coastal voyages**

Function: Navigation at the management level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Plan a voyage and conduct navigation	<p>Voyage planning and navigation for all conditions by acceptable methods of plotting sea tracks, taking into account, e.g. —</p> <ol style="list-style-type: none"> 1. restricted waters 2. meteorological conditions 3. ice 4. restricted visibility 5. traffic separation schemes 6. areas of extensive tidal effects <p>Routeing in accordance with the General Principles on Ships' Routeing</p> <p>Reporting in accordance with the Guidelines and Criteria for Ship Reporting Systems</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved simulator training, where appropriate 3. approved laboratory equipment training <p>using: chart catalogues, charts, nautical publications and ship particulars</p>	<p>The equipment, charts and nautical publications required for the voyage are enumerated and appropriate to the safe conduct of the voyage</p> <p>The reasons for the planned route are supported by facts and statistical data obtained from relevant sources and publications</p> <p>Positions, courses, distances and time calculations are correct within accepted accuracy standards for navigational equipment</p> <p>All potential navigational hazards are accurately identified</p>
Determine position and the accuracy of resultant position fix by any means	<p><i>Position determination in all conditions —</i></p> <ol style="list-style-type: none"> 1. by terrestrial observations, including the ability to use appropriate charts, notices to mariners and other publications to assess the accuracy of the resulting position fix 	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved simulator training, where appropriate 	<p>The primary method chosen for fixing the ship's position is the most appropriate to the prevailing circumstances and conditions</p> <p>The fix obtained by terrestrial observations is within accepted accuracy levels</p>

TABLE 3 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	2. using modern electronic navigational aids, with specific knowledge of their operating principles, limitations, sources of error, detection of misrepresentation of information and methods of correction to obtain accurate position fixing	3. approved laboratory equipment training using — 1. charts, nautical almanac, plotting sheets, chronometer and a calculator 2. charts, navigational publications and instruments (azimuth mirror, log, sounding equipment, compass) and manufacturers' manuals 3. radar, satellite navigation systems and appropriate navigational charts and publications	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 minimising the effects of system errors on the resulting position are properly applied
Determine and allow for compass errors	Ability to determine and allow for errors of the magnetic and gyro-compasses Basic knowledge of the principles of magnetic and gyro-compasses An understanding of systems under the control of the master gyro and a knowledge of the operation and care of the main types of gyro-compass	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved simulator training, where appropriate 3. 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
Co-ordinate search and rescue operations	A thorough knowledge of and ability to apply the procedures contained in the IMO Merchant Ship Search and Rescue Manual (MERSAR) Vol.3	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience	The plan for co-ordinating search and rescue operations is in accordance with international guidelines and standards

TABLE 3 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
		2. approved simulator training, where appropriate 3. approved laboratory equipment training using: relevant publications, charts, meteorological data, particulars of ships involved, radio communication equipment and other available facilities and one or more of the following — 1. approved SAR training course 2. approved simulator training, where appropriate 3. approved laboratory equipment training	Radio communications are established and correct communication procedures are followed at all stages of the search and rescue operations
Establish watch-keeping arrangements and procedures	Thorough knowledge of content, application and intent of the International Regulations for Preventing Collisions at Sea Thorough knowledge of the content, application and intent of the Principles to be observed in keeping a navigational watch Effective bridge teamwork procedures	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 ship and persons on board
Maintain safe navigation through the use of radar and ARPA and	An appreciation of system errors and thorough understanding of the operational aspects of modern navigational systems, including radar and ARPA	Assessment of evidence obtained from approved radar simulator training	Information obtained from radar is correctly interpreted and analysed, taking into account the limitations of the equipment and prevailing circumstances and conditions

TABLE 3 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
modern navigation systems to assist command decision-making	<p>Blind pilotage techniques</p> <p>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 ship</p> <p>The inter-relationship and optimum use of all navigational data available for conducting navigation</p>		Action taken to avoid a close encounter or collision with another vessel is in accordance with the International Regulations for Preventing Collisions at Sea
Forecast weather and oceanographic conditions	<p>Ability to understand and interpret a synoptic chart and to forecast area weather, taking into account local weather conditions and information received by weather fax</p> <p>Knowledge of the characteristics of various weather systems, including tropical revolving storms and avoidance of storm centres and the dangerous quadrants</p> <p>Knowledge of ocean current systems within the near-coastal voyage region</p> <p>Ability to calculate tidal conditions</p> <p>Use all appropriate navigational publications on tides and currents</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved laboratory equipment training 	<p>The likely weather conditions predicted for a determined period are based on all available information</p> <p>Actions taken to maintain safety of navigation minimise any risk to safety of the ship</p> <p>Reasons for intended action are backed by statistical data and observations of the actual weather conditions</p>

TABLE 3 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Respond to navigational emergencies	<p>Precautions when beaching a ship</p> <p>Action to be taken if grounding is imminent, and after grounding</p> <p>Refloating a grounded ship with and without assistance</p> <p>Action to be taken if collision is imminent and following a collision or impairment of the watertight integrity of the hull by any cause</p> <p>Assessment of damage control</p> <p>Emergency steering</p> <p>Emergency towing arrangements and towing procedures</p>	Examination and assessment of evidence obtained from practical instruction, in-service experience and practical drills in emergency procedures	<p>The type and scale of any problem is promptly identified and decisions and actions minimise the effects of any malfunction of the ship's system</p> <p>Communications are effective and comply with established procedures</p> <p>Decisions and actions maximise safety of persons on board</p>
Manoeuvre and handle a ship in all conditions	<p>Manoeuvring and handling a ship in all conditions, including —</p> <ol style="list-style-type: none"> 1. manoeuvres when approaching pilot stations and embarking or disembarking pilots, with due regard to weather, tide, headreach and stopping distances 2. handling ship in rivers, estuaries and restricted waters, having regard to the effects of current, wind and restricted water on helm response 	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved simulator training, where appropriate 3. approved manned scale ship model, where appropriate 	<p>All decisions concerning berthing and anchoring are based on a proper assessment of the ship's manoeuvring and engine characteristics and the forces to be expected while berthed alongside or lying at anchor</p> <p>While under way, a full assessment is made of possible effects of shallow and restricted waters, ice, banks, tidal conditions, passing ships and own ship's</p>

TABLE 3 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<ol style="list-style-type: none"> 3. manoeuvring in shallow water, including the reduction in underkeel clearance caused by squat, rolling and pitching 4. interaction between passing ships and between own ship and nearby banks (canal effect) 5. berthing and unberthing under various conditions of wind, tide and current with and without tugs 6. ship and tug interaction 7. use of propulsion and manoeuvring systems 8. choice of anchorage; anchoring with one or 2 anchors in limited anchorages and factors involved in determining the length of anchor cable to be used 9. dragging anchor; clearing fouled anchors 10. dry-docking, both with and without damage 11. management and handling of ships in heavy weather, including assisting a ship or aircraft in distress; towing operations; means of keeping an unmanageable ship out of trough of the sea, lessening drift and use of oil 12. precautions in manoeuvring to launch rescue boats or survival craft in bad weather 13. methods of taking on board survivors from rescue boats and survival craft 		<p>bow and stern wave so that the ship can be safely manoeuvred under various conditions of loading and weather</p>

TABLE 3 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	14. ability to determine the manoeuvring and propulsion characteristics of common types of ships with special reference to stopping distances and turning circles at various draughts and speeds 15. importance of navigating at reduced speed to avoid damage caused by own ship's bow wave and stern wave 16. use of, and manoeuvring in and near, traffic separation schemes and in vessel traffic service (VTS) areas		
Operate remote controls of propulsion plant and engineering systems and services	Operating principles of marine power plants Ships' 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 simulator training, where appropriate	Plant auxiliary machinery and equipment is operated in accordance with technical specifications and within safe operating limits at all times

Function: Cargo handling and stowage at the management level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Plan and ensure safe loading, stowage, securing, care during the	Knowledge of and ability to apply relevant international regulations, codes and standards concerning the safe handling, stowage, securing and transport of cargoes	Examination and assessment of evidence obtained from one or more of the following —	The frequency and extent of cargo condition monitoring is appropriate to its nature and prevailing conditions

TABLE 3 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
voyage and unloading of cargoes	<p>Knowledge of the effect on trim and stability of cargoes and cargo operations</p> <p>Use of stability and trim diagrams and stress-calculating equipment, including automatic data-based (ADB) equipment, and knowledge of loading cargoes and ballasting in order to keep hull stress within acceptable limits</p> <p>Stowage and securing of cargoes on board ships, including cargo handling gear and securing and lashing equipment</p> <p>Loading and unloading operations, with special regard to the transport of cargoes identified in the Code of Safe Practice for Cargo Stowage and Securing</p> <p>General knowledge of tankers and tanker operations</p>	<p>1. approved in-service experience</p> <p>2. approved simulator training, where appropriate</p> <p>using: stability, trim and stress tables, diagrams and stress-calculating equipment</p>	<p>Unacceptable or unforeseen variations in the condition or specification of the cargo is promptly recognised and remedial action is immediately taken and designed to safeguard the safety of the ship and those on board</p> <p>Cargo operations are planned and executed in accordance with established procedures and legislative requirements</p> <p>Stowage and securing of cargoes ensures that stability and stress conditions remain within safe limits at all times during the voyage</p>
Carriage of dangerous cargoes	<p>International regulations, standards, codes and recommendations on the carriage of dangerous cargoes, including the International Maritime Dangerous Goods (IMDG) Code and the Code of Safe Practice for Solid Bulk Cargoes (BC Code)</p> <p>Carriage of dangerous, hazardous and harmful cargoes; precautions during loading and unloading and care during the voyage</p>	<p>Examination and assessment of evidence obtained from one or more of the following—</p> <p>1. approved in-service experience</p> <p>2. approved simulator training, where appropriate</p> <p>3. approved specialist training</p>	<p>Planned distribution of cargo is based on reliable information and is in accordance with established guidelines and legislative requirements</p> <p>Information on dangers, hazards and special requirements is recorded in a format suitable for easy reference in the event of an incident</p>

TABLE 3 — (continued)

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

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Control trim, stability and stress	<p>Understanding of fundamental principles of ship construction and the theories and factors affecting trim and stability and measures necessary to preserve trim and stability</p> <p>Knowledge of the effect on trim and stability of a ship in the event of damage to and consequent flooding of a compartment and countermeasures to be taken</p> <p>Knowledge of IMO recommendations concerning ship stability</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>Stability and stress conditions are maintained within safe limits at all times</p>
Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea and the protection of the marine environment	<p>Knowledge of international maritime law embodied in international agreements and conventions</p> <p>Regard shall be paid especially to the following subjects —</p> <ol style="list-style-type: none"> 1. certificates and other documents required to be carried on board ships by international conventions, how they may be obtained and their period of validity 2. responsibilities under the relevant requirements of the International Convention on Load Lines 3. responsibilities under the relevant 	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>Procedures for monitoring operations and maintenance comply with legislative requirements</p> <p>Potential non-compliance is promptly and fully identified</p> <p>Planned renewal and extension of certificates ensures continued validity of surveyed items and equipment</p>

TABLE 3 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>requirements of the SOLAS Convention</p> <p>4. responsibilities under the International Convention for the Prevention of Pollution from Ships</p> <p>5. maritime declarations of health and the requirements of the International Health Regulations</p> <p>6. responsibilities under international instruments affecting the safety of the ship, passengers, crew and cargo</p> <p>7. methods and aids to prevent pollution of the marine environment by ships</p> <p>8. national legislation for implementing international agreements and conventions</p>		
<p>Maintain safety and security of the ship's crew and passengers and the operational condition of life-saving, fire-fighting and other safety systems</p>	<p>A thorough knowledge of life-saving appliance regulations (International Convention for the Safety of Life at Sea)</p> <p>Organisation of fire and abandon ship drills</p> <p>Maintenance of operational condition of life-saving, fire-fighting and other safety systems</p> <p>Actions to be taken to protect and safeguard all persons on board in emergencies</p> <p>Actions to limit damage and save the ship</p>	<p>Examination and assessment of evidence obtained from practical instruction and approved in-service training and experience</p>	<p>Procedures for monitoring fire-detection and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established emergency procedures</p>

TABLE 3 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	following a fire, explosion, collision or grounding		
Develop emergency and damage control plans and handle emergency situations	Preparation of contingency plans for response to emergencies Ship 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
Organise and manage the crew	A knowledge of personnel management, organisation and training on board ship A knowledge of related international maritime conventions and recommendations, and national legislation	Examination and assessment of evidence obtained from approved in-service training and experience	The crew are allocated duties and informed of expected standards of work and behaviour in a manner appropriate to the individuals concerned Training objectives and activities are based on an assessment of current competence and capabilities and operational requirements
Organise and manage the provision of medical care on board	A thorough knowledge of the use and contents of the following publications — 1. International Medical Guide for ships or equivalent national publications 2. Medical section of the International Code of Signals 3. Medical First Aid Guide for Use in Accidents Involving Dangerous Goods	Examination and assessment of evidence obtained from approved training	Action taken and procedures followed correctly apply and make full use of advice available

TABLE 4
(Table A-II/3 of the STCW Code)

Specification of minimum standard of competence for officers in charge of a navigational watch on ships of less than 500 tons engaged on near-coastal voyages

Function: Navigation 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
Plan and conduct a coastal passage and determine position	<p><i>Navigation.</i> Ability to determine the ship's position by the use of –</p> <ol style="list-style-type: none"> 1. landmarks 2. aids to navigation, including light-houses, beacons and buoys 3. dead reckoning, taking into account winds, tides, currents and estimated speed <p>Thorough knowledge of and ability to use navigational charts and publications, such as sailing directions, tide tables, notices to mariners, radio navigational warnings and ships' routing information</p>	<p>Examination and assessment of evidence obtained from one or more of the following –</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved laboratory equipment training <p>using: chart catalogues, charts, navigational publications, radio navigational warnings, azimuth mirror, electronic navigation equipment, echo-sounding equipment, compass</p>	<p>Information obtained from navigational charts and publications is relevant, interpreted correctly and properly applied</p> <p>The primary method of fixing the ship's position is the most appropriate to the prevailing circumstances and conditions</p> <p>The position is determined within the limits of acceptable instrument or system errors</p> <p>The reliability of the information obtained from the primary method of position fixing is checked at appropriate intervals</p> <p>Calculations and measurements of navigational information are accurate</p> <p>Charts and publications selected are the largest scale on board suitable for the area of navigation and charts are corrected in accordance with the latest information available</p>

TABLE 4 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p><i>Navigational aids and equipment</i> Ability to operate safely and determine the ship's position by use of all navigational aids and equipment commonly fitted on board the ships concerned</p> <p><i>Compasses</i> Knowledge of the errors and corrections of magnetic compasses</p> <p>Ability to determine errors of the compass using terrestrial means, and to allow for such errors</p> <p><i>Automatic pilot</i> Knowledge of automatic pilot systems and procedures; change-over from manual to automatic control and vice versa; adjustment of controls for optimum performance</p>	<p>Assessment of evidence obtained from approved radar navigation training</p>	<p>Performance checks and tests of navigation systems comply with manufacturer's recommendations, good navigational practice and IMO resolutions on performance standards for navigational equipment</p> <p>Interpretation and analysis of information obtained from radar is in accordance with accepted navigational practice and takes account of the limits and accuracy levels of radar</p> <p>Errors in magnetic compasses are determined and applied correctly to courses and bearings</p> <p>Selection of the mode of steering is the most suitable for prevailing weather, sea and traffic conditions and intended manoeuvres</p>

TABLE 4 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p><i>Meteorology</i> Ability to use and interpret information obtained from shipborne meteorological instruments</p> <p>Knowledge of the characteristics of the various weather systems, reporting procedures and recording systems</p> <p>Ability to apply the meteorological information available</p>		<p>Measurements and observations of weather conditions are accurate and appropriate to the passage</p> <p>Meteorological information is evaluated and applied to maintain the safe passage of the ship</p>
Maintain a safe navigational watch	<p><i>Watchkeeping</i> Thorough knowledge of content, application and intent of the International Regulations for Preventing Collisions at Sea</p> <p>Knowledge of content of the principles to be observed in keeping a navigational watch</p> <p>Use of routing in accordance with the General Provisions on Ships' Routing</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved laboratory equipment training 	<p>The conduct, handover and relief of the watch conforms with accepted principles and procedures</p> <p>A proper look-out is maintained at all times and in conformity with accepted principles and procedures</p> <p>Lights, shapes and sound signals conform with the requirements contained in the International Regulations for Preventing Collisions at Sea and are correctly recognised</p> <p>The frequency and extent of monitoring of traffic, the ship and the environment conforms with accepted principles and procedures</p> <p>Action to avoid close encounters and collision with other vessels is in accordance</p>

TABLE 4 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
			<p>with the International Regulations for Preventing Collisions at Sea</p> <p>Decisions to adjust course or speed are both timely and in accordance with accepted navigation procedures</p> <p>A proper record is maintained of movements and activities relating to the navigation of the ship</p> <p>Responsibility for safe navigation is clearly defined at all times, including periods when the master is on the bridge and when under pilotage</p>
Respond to emergencies	<p>Emergency procedures, including —</p> <ol style="list-style-type: none"> 1. precautions for the protection and safety of passengers in emergency situations 2. initial assessment of damage and damage control 3. action to be taken following a collision 4. action to be taken following a grounding 	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. practical instruction 	<p>The type and scale of the emergency is promptly identified</p> <p>Initial actions and, if appropriate, manoeuvring are in accordance with contingency plans and are appropriate to the urgency of the situation and the nature of the emergency</p>

TABLE 4 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Respond to a distress signal at sea	<i>Search and rescue</i> Knowledge of the contents of the IMO Merchant Ship Search and Rescue Manual (MERSAR) Vol.3	Examination and assessment of evidence obtained from practical instruction or approved simulator training, where appropriate	The distress or emergency signal is immediately recognised Contingency plans and instructions in standing orders are implemented and complied with
Manoeuvre the ship and operate small ship power plants	<i>Ship manoeuvring and handling</i> Knowledge of factors affecting safe manoeuvring and handling The operation of small ship power plants and auxiliaries Proper procedures for anchoring and mooring	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate	Safe operating limits of ship propulsion, steering and power systems are not exceeded in normal manoeuvres Adjustments made to the ship's course and speed maintain safety of navigation Plant, auxiliary machinery and equipment is operated in accordance with technical specifications and within safe operating limits at all times

Function: Cargo handling and stowage at the operational level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Monitor the loading, stowage, securing and unloading of cargoes and their care during the voyage	<i>Cargo handling, stowage and securing</i> Knowledge of safe handling, stowage and securing of cargoes including dangerous, hazardous and harmful cargoes and their effect on the safety of life and of the ship	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved training ship experience	Cargo operations are carried out in accordance with the cargo plan or other documents and established safety rules and regulations, equipment operating instructions and shipboard stowage limitations

TABLE 4 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	Use of the International Maritime Dangerous Goods (IMDG) Code	3. approved simulator training, where appropriate	The handling of dangerous, hazardous and harmful cargoes complies with international regulations and recognised standards and codes of safe practice

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

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Ensure compliance with pollution prevention requirements	<p><i>Prevention of pollution of the marine environment and anti-pollution procedures</i></p> <p>Knowledge of the precautions to be taken to prevent pollution of the marine environment and anti-pollution procedures</p> <p>Anti-pollution procedures and all associated equipment</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 	<p>Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed</p>
Maintain seaworthiness of the ship	<p><i>Ship stability</i></p> <p>Working knowledge and application of stability, trim and stress tables, diagrams and stress-calculating equipment</p> <p>Understanding of fundamental actions to be taken in the event of partial loss of intact buoyancy</p> <p>Understanding of the fundamentals of watertight integrity</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved laboratory equipment training 	<p>Stability conditions comply with the IMO intact stability criteria under all conditions of loading</p> <p>Actions to ensure and maintain the watertight integrity of the ship are in accordance with accepted practice</p>

TABLE 4 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p><i>Ship construction</i> General knowledge of the principal structural members of a ship and the proper names for the various parts</p>		
Prevent, control and fight fires on board	<p><i>Fire prevention and fire-fighting appliances</i> Knowledge of fire prevention</p> <p>Ability to organise fire drills</p> <p>Knowledge of fire-fighting systems</p> <p>Understanding of action to be taken in the event of fire, including fires involving oil systems</p>	Assessment of evidence obtained from approved fire-fighting training and experience as set out in section A-VI/3 of the STCW Code	<p>The type and scale of the problem is promptly identified and initial actions conform with the emergency procedures and contingency plans for the ship</p> <p>Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly</p> <p>The order of priority, and the levels and time-scales of making reports and informing personnel on board, are relevant to the nature of the emergency and reflect the urgency of the problem</p>
Operate life-saving appliances	<p><i>Life-saving</i> Ability to organise 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, satellite EPIRBs, SARTs, immersion suits and thermal protective aids</p> <p>Knowledge of survival at sea techniques</p>	Assessment of evidence obtained from approved training and experience as set out in paragraphs 1 to 4 of section A-VI/2 of the STCW Code	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

TABLE 4 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Apply medical first aid on board ship	<i>Medical aid</i> Practical application of medical guides and advice by radio, including the ability to take effective action based on such knowledge in the case of accidents or illnesses that are likely to occur on board ship	Assessment of evidence obtained from approved training as set out in paragraphs 1 to 3 of section A-VI/4 of the STCW Code	The identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimises immediate threat to life
Monitor compliance with legislative requirements	Basic working knowledge of the relevant IMO conventions 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

TABLE 5
(Table A-II/3 of the STCW Code)

Specification of minimum standard of competence for masters on ships of less than 500 tons engaged on near-coastal voyages

Function: Navigation at the management level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Plan and conduct a coastal passage and determine position	<p><i>Navigation</i></p> <p>Voyage planning and navigation for all conditions by acceptable methods of plotting ocean tracks, taking into account, e.g. —</p> <ol style="list-style-type: none"> 1. restricted waters 2. meteorological conditions 3. restricted visibility 4. traffic separation schemes 5. areas of extensive tidal effects <p>Routeing in accordance with the General Principles on Ships' Routeing</p> <p>Reporting in accordance with the Guidelines and Criteria for Ship Reporting Systems</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved simulator training, where appropriate 3. approved laboratory equipment training <p>using: chart catalogues, charts, nautical publications and ship particulars</p>	<p>The equipment, charts and nautical publications required for the voyage are enumerated and appropriate to the safe conduct of the voyage</p> <p>The reasons for the planned route are supported by facts and statistical data obtained from relevant sources and publications</p> <p>Positions, courses, distances and time calculations are correct within accepted accuracy standards for navigational equipment</p> <p>All potential navigational hazards are accurately identified</p>
Determine position and the accuracy of resultant position fix by any means	<p><i>Position determination in all conditions —</i></p> <ol style="list-style-type: none"> 1. by terrestrial observations, including the ability to use appropriate charts, notices to mariners and other publications to assess the accuracy of the resulting position fix 	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved simulator training, where appropriate 	<p>The primary method chosen for fixing the ship's position is the most appropriate to the prevailing circumstances and conditions</p>

TABLE 5 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	2. using modern electronic navigational aids, with specific knowledge of their operating principles, limitations, sources of error, detection of misrepresentation of information and methods of correction to obtain accurate position fixing	3. approved laboratory equipment training using — 1. charts, plotting sheets, chronometer, calculator, navigational publications and instruments (azimuth mirror, log, sounding equipment, compass) and manufacturers' manuals 2. radar, satellite navigation systems and appropriate navigational charts and publications	The fix obtained by terrestrial observations is within 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 minimising the effects of system errors on the resulting position are properly applied
Determine and allow for compass errors	Ability to determine and allow for errors of the magnetic and gyro-compasses Basic knowledge of the principles of magnetic and gyro-compasses An understanding of systems under the control of the master gyro and a knowledge of the operation and care of the main types of gyro-compass	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved simulator training, where appropriate 3. 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
Respond to a distress signal at sea	Knowledge of the contents of the IMO Merchant Ship Search and Rescue Manual (MERSAR) Vol. 3	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved simulator training, where	The plan for co-ordinating search and rescue operations is in accordance with international guidelines and standards Radio communications are established and

TABLE 5 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
		<p>appropriate</p> <p>3. approved laboratory equipment training</p> <p>using: relevant publications, charts, meteorological data, particulars of ships involved, radio communication equipment and other available facilities and one or more of the following —</p> <p>1. approved SAR training course</p> <p>2. approved simulator training, where appropriate</p> <p>3. approved laboratory equipment training</p>	<p>correct communication procedures are followed at all stages of the search and rescue operations</p>
<p>Establish watch-keeping arrangements and procedures</p>	<p>Thorough knowledge of content, application and intent of the International Regulations for Preventing Collisions at Sea</p> <p>Knowledge of the content, application and intent of the principles to be observed in keeping a navigational watch</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <p>1. approved in-service experience</p> <p>2. approved simulator training, where appropriate</p>	<p>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 ship and persons on board</p>
<p>Maintain safe navigation through the use of radar and modern navigation systems to assist command</p>	<p>An appreciation of system errors and thorough understanding of the operational aspects of modern navigational systems, including radar and ARPA</p>	<p>Assessment of evidence obtained from approved radar simulator training</p>	<p>Information obtained from radar is correctly interpreted and analysed, taking into account the limitations of the equipment and prevailing circumstances and conditions</p>

TABLE 5 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
decision-making	<p>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 ship</p> <p>The inter-relationship and optimum use of all navigational data available for conducting navigation</p>		Action taken to avoid a close encounter or collision with another vessel is in accordance with the International Regulations for Preventing Collisions at Sea
Respond to emergencies	<p>Action to be taken if grounding is imminent, and after grounding</p> <p>Action to be taken if collision is imminent and following a collision or impairment of the watertight integrity of the hull by any cause</p> <p>Assessment of damage control</p> <p>Emergency steering</p> <p>Emergency towing arrangements and towing procedures</p> <p>Rescuing persons from the sea</p> <p>Assisting a ship in distress</p> <p>Appreciation of the action to be taken when emergencies arise in port</p>	Examination and assessment of evidence obtained from practical instruction, in-service experience and practical drills in emergency procedures	<p>The type and scale of any problem is promptly identified and decisions and actions minimise the effects of any malfunction of the ship's system</p> <p>Communications are effective and comply with established procedures</p> <p>Decisions and actions maximise safety of persons on board</p>

TABLE 5 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Manoeuvre the ship and operate small ship power plants	<p><i>Ship manoeuvring and handling</i> Knowledge of factors affecting safe manoeuvring and handling</p> <p>The operation of small ship power plants and auxiliaries</p> <p>Proper procedures for anchoring and mooring</p> <p>Handling ship in rivers, estuaries and restricted waters</p> <p>Manoeuvring in shallow water, including the reduction in underkeel clearance caused by squat, rolling and pitching</p> <p>Berthing and unberthing under various conditions of wind, tide and current with and without tug</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>Safe operating limits of ships propulsion, steering and power systems are not exceeded in normal manoeuvres</p> <p>Adjustments made to the ship's course and speed maintain safety of navigation</p> <p>Plant auxiliary machinery and equipment is operated in accordance with technical specifications and within safe operating limits at all times</p>

Function: Cargo handling and stowage at the management level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Monitor the loading, stowage, securing and unloading of cargoes and their	<p><i>Cargo handling, stowage and securing</i> Knowledge of safe handling, stowage and securing of cargoes including dangerous, hazardous and harmful cargoes and their effect on the safety of life and of the ship</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 	<p>Cargo operations are carried out in accordance with the cargo plan or other documents and established safety rules and regulations, equipment operating instructions and shipboard stowage limitations</p>

TABLE 5 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Care during the voyage	Use of the International Maritime Dangerous Goods (IMDG) Code	2. approved training ship experience 3. approved simulator training, where appropriate	The handling of dangerous, hazardous and harmful cargoes complies with international regulations and recognised standards and codes of safe practice

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

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Ensure compliance with pollution prevention requirements	<i>Prevention of pollution of the marine environment and anti-pollution procedures</i> Knowledge of the precautions to be taken to prevent pollution of the marine environment and anti-pollution procedures Anti-pollution procedures and all associated equipment	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved training ship experience	Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed
Maintain seaworthiness of the ship	<i>Ship stability</i> Working knowledge and application of stability, trim and stress tables, diagrams and stress-calculating equipment Understanding of fundamental actions to be taken in the event of partial loss of intact buoyancy	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate	Stability conditions comply with the IMO intact stability criteria under all conditions of loading Actions to ensure and maintain the watertight integrity of the ship are in accordance with accepted practice

TABLE 5 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>Understanding of the fundamentals of watertight integrity</p> <p><i>Ship construction</i> General knowledge of the principal structural members of a ship and the proper names for the various parts</p>	4. approved laboratory equipment training	
Prevent, control and fight fires on board	<p><i>Fire prevention and fire-fighting appliances</i> Knowledge of fire prevention</p> <p>Ability to organise fire drills</p> <p>Knowledge of fire-fighting systems</p> <p>Understanding of action to be taken in the event of fire, including fires involving oil systems</p>	Assessment of evidence obtained from approved fire-fighting training and experience as set out in section A-VI/3 of the STCW Code	<p>The type and scale of the problem is promptly identified and initial actions conform with the emergency procedures and contingency plans for the ship</p> <p>Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly</p> <p>The order of priority, and the levels and time-scales of making reports and informing personnel on board, are relevant to the nature of the emergency and reflect the urgency of the problem</p>
Operate life-saving appliances	<p><i>Life-saving</i> Ability to organise 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, satellite EPIRBs, SARTs, im-</p>	Assessment of evidence obtained from approved training and experience as set out in paragraphs 1 to 4 of section A-VI/2 of the STCW Code	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

TABLE 5 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>ersion suits and thermal protective aids</p> <p>Knowledge of survival at sea techniques</p>		
Apply medical first aid on board ship	<p><i>Medical aid</i></p> <p>Practical application of medical guides and advice by radio, including the ability to take effective action based on such knowledge in the case of accidents or illnesses that are likely to occur on board ship</p>	Assessment of evidence obtained from approved training as set out in paragraphs 1 to 3 of section A-VI/4 of the STCW Code	The identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimises immediate threat to life
Monitor compliance with legislative requirements	Basic working knowledge of the relevant IMO conventions 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

TABLE 6
(Table A-IV/2 of the STCW Code)

rule 13

Specification of minimum standard of competence for GMDSS radio operators

Function: Radio communications 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 sub-systems and equipment and fulfilling the functional requirements of GMDSS	<p>In addition to the requirements of the Radio Regulations, a knowledge of –</p> <ol style="list-style-type: none"> 1. search and rescue radio communications, including procedures in the IMO Merchant Ship Search and Rescue Manual (MERSAR) 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 Standard Marine Navigational Vocabulary as replaced by the Standard Marine Communication Phrases 6. the English language, both written and spoken, for the communication of information relevant to safety of life at sea <p><i>Note:</i> This requirement may be reduced in the case of the Restricted Radio Operator's Certificate</p>	<p>Examination and assessment of evidence obtained from practical demonstration of operational procedures using –</p> <ol style="list-style-type: none"> 1. approved equipment 2. GMDSS communication simulator, where appropriate 3. radio communication laboratory equipment 	<p>Transmission and reception of communications comply with international regulations and procedures and are carried out efficiently and effectively</p> <p>English language messages relevant to the safety of the ship and persons on board and protection of the marine environment are correctly handled</p>

TABLE 6 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Provide radio service in emergencies	<p>The provision of radio services in emergencies such as —</p> <ol style="list-style-type: none"> 1. abandon ship 2. fire on board ship 3. partial or full breakdown of radio installations <p>Preventive measures for the safety of ship and personnel in connection with hazards related to radio equipment, including electrical and non-ionising radiation hazards</p>	<p>Examination and assessment of evidence obtained from practical demonstration of operational procedures using —</p> <ol style="list-style-type: none"> 1. approved equipment 2. GMDSS communication simulator, where appropriate 3. radio communication laboratory equipment 	Response is carried out efficiently and effectively

TABLE 7
(Table A-III/1 of the STCW Code)

Specification of minimum standard of competence for officers in charge of an engineering watch on ships powered by main propulsion machinery of 750 kW or more

Function: Marine engineering at the operational level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Use appropriate tools for fabrication and repair operations typically performed on ships	<p>Characteristics and limitations of materials used in construction and repair of ships and equipment</p> <p>Characteristics and limitations of processes used for fabrication and repair</p> <p>Properties and parameters considered in the fabrication and repair of systems and components</p> <p>Application of safe working practices in the workshop environment</p>	<p>Assessment of evidence obtained from one or more of the following –</p> <ol style="list-style-type: none"> 1. approved workshop skills training 2. approved practical experience and tests 	<p>Identification of important parameters for fabrication of typical ship related components is appropriate</p> <p>Selection of material is appropriate</p> <p>Fabrication is to designated tolerances</p> <p>Use of equipment and machine tools is appropriate and safe</p>
Use of hand tools and measuring equipment for dismantling, maintenance, repair and re-assembly of ship-board plant and equipment	<p>Design characteristics and selection of materials in construction of equipment</p> <p>Interpretation of machinery drawings and handbooks</p> <p>Operational characteristics of equipment and systems</p>	<p>Assessment of evidence obtained from one or more of the following –</p> <ol style="list-style-type: none"> 1. approved workshop skills training 2. approved practical experience and tests 	<p>Safety procedures followed are appropriate</p> <p>Selection of tools and spare gear is appropriate</p> <p>Dismantling, inspecting, repairing and re-assembling equipment is in accordance with manuals and good practice</p>

TABLE 7 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
			Re-commissioning and performance testing is in accordance with manuals and good practice
Use hand tools, electrical and electronic measuring and test equipment for fault finding, maintenance and repair operations	<p>Safety requirements for working on shipboard electrical systems</p> <p>Construction and operational characteristics of shipboard AC and DC electrical systems and equipment</p> <p>Construction and operation of electrical test and measuring equipment</p>	<p>Assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved workshop skills training 2. approved practical experience and tests 	<p>Implementation of safety procedures is satisfactory</p> <p>Selection and use of test equipment is appropriate and interpretation of results is accurate</p> <p>Selection of procedures for the conduct of repair and maintenance is in accordance with manuals and good practice</p> <p>Commissioning and performance testing of equipment and systems brought back into service after repair is in accordance with manuals and good practice</p>
Maintain a safe engineering watch	<p>Thorough knowledge of principles to be observed in keeping an engineering watch, including —</p> <ol style="list-style-type: none"> 1. duties associated with taking over and accepting a watch 2. routine duties undertaken during a watch 3. maintenance of the machinery space log-book and the significance of the readings taken 4. duties associated with handing over a watch 	<p>Assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved laboratory equipment training 	<p>The conduct, handover and relief of the watch conforms with accepted principles and procedures</p> <p>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</p>

TABLE 7 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>Safety and emergency procedures; change-over of remote or automatic to local control of all systems</p> <p>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</p>		A proper record is maintained of the movements and activities relating to the ship's engineering systems
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	<p>English language publications relevant to engineering duties are correctly interpreted</p> <p>Communications are clear and understood</p>
Operate main and auxiliary machinery and associated control systems	<p>Main and auxiliary machinery —</p> <ol style="list-style-type: none"> 1. preparation of main machinery and preparation of auxiliary machinery for operation 2. operation of steam boilers, including combustion systems 3. methods of checking water level in steam boilers and action necessary if water level is abnormal 4. location of common faults in machinery and plant in engine and boiler rooms and action necessary to prevent damage 	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved laboratory equipment training 	<p>Operations are planned and carried out in accordance with established rules and procedures to ensure safety of operations and avoid pollution of the marine environment</p> <p>Deviations from the norm are promptly identified</p> <p>The output of plant and engineering systems consistently meets requirements, including bridge orders relating to changes in speed and direction</p> <p>The causes of machinery malfunctions are promptly identified and actions are designed to ensure the overall safety of the ship and the plant, having regard to the</p>

TABLE 7 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
			prevailing circumstances and conditions
Operate pumping systems and associated control systems	Pumping systems — 1. routine pumping operations 2. operation of bilge, ballast and cargo pumping systems	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved laboratory equipment training	Operations are planned and carried out in accordance with established rules and procedures to ensure safety of operations and avoid pollution of the marine environment

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

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Operate alternators, generators and control systems	<i>Generating plant</i> Appropriate basic electrical knowledge and skills Preparing, starting, coupling and changing over alternators or generators Location of common faults and action to prevent damage <i>Control systems</i> Location of common faults and action to prevent damage	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved laboratory equipment training	Operations are planned and carried out in accordance with established rules and procedures to ensure safety of operations

TABLE 7 — (continued)

Function: Maintenance and repair 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
Maintain marine engineering systems, including control systems	<p><i>Marine systems</i> Appropriate basic mechanical knowledge and skills</p> <p><i>Safety and emergency procedures</i> Safe isolation of electrical and other types of plant and equipment required before personnel are permitted to work on such plant or equipment</p> <p>Undertake maintenance and repair to plant and equipment</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved laboratory equipment training 	Isolation, dismantling and re-assembly of plant and equipment is in accordance with accepted practices and procedures. Action taken leads to the restoration of plant by the method most suitable and appropriate to the prevailing circumstances and conditions

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

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Ensure compliance with pollution prevention requirements	<p><i>Prevention of pollution of the marine environment</i> Knowledge of the precautions to be taken to prevent pollution of the marine environment</p> <p>Anti-pollution procedures and all associated equipment</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 	Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed

TABLE 7 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Maintain seaworthiness of the ship	<p><i>Ship stability</i> Working knowledge and application of stability, trim and stress tables, diagrams and stress-calculating equipment</p> <p>Understanding of the fundamentals of watertight integrity</p> <p>Understanding of fundamental actions to be taken in the event of partial loss of intact buoyancy</p> <p><i>Ship construction</i> General knowledge of the principal structural members of a ship and the proper names for the various parts</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved laboratory equipment training 	<p>The stability conditions comply with the IMO intact stability criteria under all conditions of loading</p> <p>Actions to ensure and maintain the watertight integrity of the ship are in accordance with accepted practice</p>
Prevent, control and fight fires on board	<p><i>Fire prevention and fire-fighting appliances</i> Knowledge of fire prevention</p> <p>Ability to organise fire drills</p> <p>Knowledge of classes and chemistry of fire</p> <p>Knowledge of fire-fighting systems</p> <p>Action to be taken in the event of fire, including fires involving oil systems</p>	<p>Assessment of evidence obtained from approved fire-fighting training and experience as set out in section A-VI/3 of the STCW Code</p>	<p>The type and scale of the problem is promptly identified and initial actions conform with the emergency procedures and contingency plans for the ship</p> <p>Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly</p> <p>The order of priority, and the levels and time-scales of making reports and informing personnel on board, are relevant to the nature of the emergency and reflect the urgency of the problem</p>

TABLE 7 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Operate life-saving appliances	<p><i>Life-saving</i> Ability to organise 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, satellite EPIRBs, SARTs, immersion suits and thermal protective aids</p> <p>Knowledge of survival at sea techniques</p>	Assessment of evidence obtained from approved training and experience as set out in paragraphs 1 to 4 of section A-VI/2 of the STCW Code	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
Apply medical first aid on board ship	<p><i>Medical aid</i> Practical application of medical guides and advice by radio, including the ability to take effective action based on such knowledge in the case of accidents or illnesses that are likely to occur on board ship</p>	Assessment of evidence obtained from approved training as set out in paragraphs 1 to 3 of section A-VI/4 of the STCW Code	Identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimises immediate threat to life
Monitor compliance with legislative requirements	Basic working knowledge of the relevant IMO conventions 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

TABLE 8
(Table A-III/2 of the STCW Code)

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

Function: Marine engineering at the management level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Plan and schedule operations	<p><i>Theoretical knowledge</i></p> <p>Thermodynamics and heat transmission</p> <p>Mechanics and hydromechanics</p> <p>Operating principles of ship power installations (diesel, steam and gas turbine) and refrigeration</p>	<p>Examination and assessment of evidence obtained from one or more of the following –</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>The planning and preparation of operations is suited to the design parameters of the power installation and to the requirements of the voyage</p>
Start up and shutdown main propulsion and auxiliary machinery, including associated systems	<p>Physical and chemical properties of fuels and lubricants</p> <p>Technology of materials</p> <p>Naval architecture and ship construction, including damage control</p>	<p>Examination and assessment of evidence obtained from one or more of the following –</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>The methods of preparing the start up and of making available fuels, lubricants, cooling water and air are the most appropriate</p> <p>Checks of pressures, temperatures and revolutions during the start up and warm up period are in accordance with technical specifications and agreed work plans</p> <p>Surveillance of main propulsion plant and auxiliary systems is sufficient to maintain safe operating conditions</p> <p>The methods of preparing the shutdown</p>

TABLE 8 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
			and of supervising the cooling down of the engine are the most appropriate
Operate, monitor and evaluate engine performance and capacity	<p><i>Practical knowledge</i></p> <p>Operation and maintenance of —</p> <ol style="list-style-type: none"> 1. marine diesel engines 2. marine steam propulsion plant 3. marine gas turbines <p>Operation and maintenance of auxiliary machinery, including pumping and piping systems, auxiliary boiler plant and steering-gear systems</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>The methods of measuring the load capacity of the engines are in accordance with technical specifications</p> <p>Performance is checked against bridge orders</p> <p>Performance levels are in accordance with technical specifications</p>
Maintain safety of engine equipment, systems and services	<p>Operation, testing and maintenance of control systems</p> <p>Operation and maintenance of cargo handling equipment and deck machinery</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 	<p>Arrangements for ensuring the safe and efficient operation and condition of the machinery installation are suitable for all modes of operation</p>
Manage fuel and ballast operations	<p>Operation and maintenance of machinery, including pumps and piping systems</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>Fuel and ballast operations meet operational requirements and are carried out so as to prevent pollution of the marine environment</p>
Use internal communication systems	<p>Operation of all internal communication systems on board</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p>	<p>Transmission and reception of messages are consistently successful</p>

TABLE 8 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
		<ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	Communication records are complete, accurate and comply with statutory requirements

Function: Electrical, electronic and control engineering at the management level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Operate electrical and electronic control equipment	<p><i>Theoretical knowledge</i> Marine electrotechnology, electronics and electrical equipment</p> <p>Fundamentals of automation, instrumentation and control systems</p> <p><i>Practical knowledge</i> Operation, testing and maintenance of electrical and electronic control equipment, including fault diagnostics</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved laboratory equipment training 	<p>Operation of equipment and system is in accordance with operating manuals</p> <p>Performance levels are in accordance with technical specifications</p>
Test, detect faults and maintain and restore electrical and electronic control equipment to operating condition		<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>Maintenance activities are correctly planned in accordance with technical, legislative, safety and procedural specifications.</p> <p>The effect of malfunctions on associated plant and systems is accurately identified,</p>

TABLE 8 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
		4. approved laboratory equipment training	ship's technical drawings are correctly interpreted, measuring and calibrating instruments are correctly used and actions taken are justified

Function: Maintenance and repair at the management level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Organise safe maintenance and repair procedures	<p><i>Theoretical knowledge</i> Marine engineering practice</p> <p><i>Practical knowledge</i> Organising and carrying out safe maintenance and repair procedures</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved workshop training 	<p>Maintenance activities are correctly planned and carried out in accordance with technical, legislative, safety and procedural specifications</p> <p>Appropriate plans, specifications, materials and equipment are available for maintenance and repair</p> <p>Action taken leads to the restoration of plant by the most suitable method</p>
Detect and identify the cause of machinery malfunctions and correct faults	<p><i>Practical knowledge</i> Detection of machinery malfunction, location of faults and action to prevent damage</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>The methods of comparing actual operating conditions are in accordance with recommended practices and procedures</p> <p>Actions and decisions are in accordance with recommended operating specifications and limitations</p>

TABLE 8 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Ensure safe working practices	<i>Practical knowledge</i> Safe working practices	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved training ship experience	Working practices are in accordance with legislative requirements, codes of practice, permits to work and environmental concerns

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

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Control trim, stability and stress	Understanding of fundamental principles of ship 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 ship in the event of damage to and consequent flooding of a compartment and countermeasures to be taken Knowledge of IMO recommendations concerning ship stability	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate	Stability and stress conditions are maintained within safety limits at all times
Monitor and control compliance with legislative requirements and measures to en-	Knowledge of relevant international maritime law embodied in international agreements and conventions	Examination and assessment of evidence obtained from one or more of the following —	Procedures for monitoring operations and maintenance comply with legislative requirements

TABLE 8 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
sure safety of life at sea and protection of the marine environment	<p>Regard shall be paid especially to the following subjects —</p> <ol style="list-style-type: none"> 1. certificates and other documents required to be carried on board ships by international conventions, how they may be obtained and the period of their legal validity 2. responsibilities under the relevant requirements of the International Convention on Load Lines 3. responsibilities under the relevant requirements of the International Convention for the Safety of Life at Sea 4. responsibilities under the International Convention for the Prevention of Pollution from Ships 5. maritime declarations of health and the requirements of the International Health Regulations 6. responsibilities under international instruments affecting the safety of the ship, passengers, crew and cargo 7. methods and aids to prevent pollution of the environment by ships 8. knowledge of national legislation for implementing international agreements and conventions 	<ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>Potential non-compliance is promptly and fully identified</p> <p>Requirements for renewal and extension of certificates ensure continued validity of survey items and equipment</p>
Maintain safety and security of the ship, crew and passengers	A thorough knowledge of life-saving appliance regulations (International Convention for the Safety of Life at Sea)	Examination and assessment of evidence obtained from practical instruction and approved in-service training and experience	Procedures for monitoring fire-detection and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established emergency

TABLE 8 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
and the operational condition of life-saving, fire-fighting and other safety systems	<p>Organisation of fire and abandon ship drills</p> <p>Maintenance of operational condition of life-saving, fire-fighting and other safety systems</p> <p>Actions to be taken to protect and safeguard all persons on board in emergencies</p> <p>Actions to limit damage and save the ship following fire, explosion, collision or grounding</p>		procedures
Develop emergency and damage control plans and handle emergency situations	<p>Ship construction, including damage control</p> <p>Methods and aids for fire prevention, detection and extinction</p> <p>Functions and use of life-saving appliances</p>	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
Organise and manage the crew	<p>A knowledge of personnel management, organisation and training on board ships</p> <p>A knowledge of international maritime conventions and recommendations, and related national legislation</p>	Examination and assessment of evidence obtained from approved in-service training and experience	<p>The crew are allocated duties and informed of expected standards of work and behaviour in a manner appropriate to the individuals concerned</p> <p>Training objectives and activities are based on an assessment of current competence and capabilities and operational requirements</p>

TABLE 9
(Table A-III/2 of the STCW Code)

Specification of minimum standard of competence for chief engineer officers and second engineer officers on ships of between 750 kW and 3,000 kW propulsion power on near-coastal voyages

Function: Marine engineering at the management level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Plan and schedule operations	<p><i>Theoretical knowledge</i> Operating principles of ship power installations (diesel engine only) and refrigeration</p> <p>Physical and chemical properties of fuels and lubricants</p> <p>Ship construction, including damage control</p>	<p>Examination and assessment of evidence obtained from one or more of the following –</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>The planning and preparation of operations is suited to the design parameters of the power installation and to the requirements of the voyage</p>
Start up and shutdown main propulsion and auxiliary machinery, including associated systems		<p>Examination and assessment of evidence obtained from one or more of the following –</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>The methods of preparing the start up and of making available fuels, lubricants, cooling water and air are the most appropriate</p> <p>Checks of pressures, temperatures and revolutions during the start up and warm up period are in accordance with technical specifications and agreed work plans</p> <p>Surveillance of main propulsion plant and auxiliary systems is sufficient to maintain safe operating conditions</p>

TABLE 9 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
			The methods of preparing the shutdown and of supervising the cooling down of the engine are the most appropriate
Operate, monitor and evaluate engine performance and capacity	<p><i>Practical knowledge</i> Operation and maintenance of marine diesel engines</p> <p>Operation and maintenance of auxiliary machinery, including pumping and piping systems, auxiliary boiler plant and steering-gear systems</p> <p>Operation, testing and maintenance of control systems</p>	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>The methods of measuring the load capacity of the engines are in accordance with technical specifications</p> <p>Performance is checked against bridge orders</p> <p>Performance levels are in accordance with technical specifications</p>
Maintain safety of engine equipment, system and services	Operation and maintenance of cargo handling equipment and deck machinery	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 	Arrangements for ensuring the safe and efficient operation and condition of the machinery installation are suitable for all modes of operation
Manage fuel and ballast operations	Operation and maintenance of machinery, including pumps and piping systems	<p>Examination and assessment of evidence obtained from one or more of the following —</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	Fuel and ballast operations meet operational requirements and are carried out so as to prevent pollution of the marine environment

TABLE 9 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
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 ship experience 3. approved simulator training, where appropriate	Transmission and reception of messages are consistently successful Communication records are complete, accurate and comply with statutory requirements

Function: Electrical, electronic and control engineering at the management level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Operate electrical and electronic control equipment	<i>Theoretical knowledge</i> Marine electrical equipment Fundamentals of automation, instrumentation and control systems <i>Practical knowledge</i> Operation, testing and maintenance of electrical equipment, including fault diagnostics	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved laboratory equipment training	Operation of equipment and system is in accordance with operating manuals Performance levels are in accordance with technical specifications
Test, detect faults and maintain and restore electrical and electronic control equipment to operating condition		Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved training ship experience	Maintenance activities are correctly planned in accordance with technical, legislative, safety and procedural specifications

TABLE 9 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
		3. approved simulator training, where appropriate 4. approved laboratory equipment training	The effect of malfunctions on associated plant and systems is accurately identified, ship's technical drawings are correctly interpreted, measuring and calibrating instruments are correctly used and actions taken are justified

Function: Maintenance and repair at the management level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Organise safe maintenance and repair procedures	<i>Theoretical knowledge</i> Marine engineering practice <i>Practical knowledge</i> Organising and carrying out safe maintenance and repair procedures	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved training ship experience 3. approved 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	<i>Practical knowledge</i> Detection of machinery malfunction, location of faults and action to prevent damage	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where	The methods of comparing actual operating conditions are in accordance with recommended practices and procedures Actions and decisions are in accordance

TABLE 9 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
		appropriate	with recommended operating specifications
Ensure safe working practices	<i>Practical knowledge</i> Safe working practices	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved training ship experience	Working practices are in accordance with legislative requirements, codes of practice, permits to work and environmental concerns

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

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Control trim, stability and stress	Understanding of fundamental principles of ship 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 ship in the event of damage to and consequent flooding of a compartment and countermeasures to be taken	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate	Stability and stress conditions are maintained within safety limits at all times
Monitor and control compliance with legislative requirements and measures to en-	Knowledge of relevant international maritime law embodied in international agreements and conventions Regard shall be paid especially to the	Examination and assessment of evidence obtained from one or more of the following — 1. approved in-service experience	Procedures for monitoring operations and maintenance comply with legislative requirements

TABLE 9 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>sure safety of life at sea and protection of the marine environment</p>	<p>following subjects —</p> <ol style="list-style-type: none"> 1. certificates and other documents required to be carried on board ships by international conventions, how they may be obtained and the period of their legal validity 2. responsibilities under the relevant requirements of the International Convention on Load Lines 3. responsibilities under the relevant requirements of the SOLAS Convention 4. responsibilities under the International Convention for the Prevention of Pollution from ships 5. maritime declarations of health and the requirements of the International Health Regulations 6. responsibilities under international instruments affecting the safety of the ship, passengers, crew and cargo 7. methods and aids to prevent pollution of the environment by ships 8. knowledge of national legislation for implementing international agreements and conventions 	<ol style="list-style-type: none"> 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>Potential non-compliance is promptly and fully identified</p> <p>Requirements for renewal and extension of certificates ensure continued validity of survey items and equipment</p>
<p>Maintain safety and security of the ship, crew and passengers and the opera-</p>	<p>A thorough knowledge of life-saving appliance regulations (International Convention for the Safety of Life at Sea)</p> <p>Organisation of fire and abandon ship</p>	<p>Examination and assessment of evidence obtained from practical instruction and approved in-service training and experience</p>	<p>Procedures for monitoring fire-detection and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established emergency procedures</p>

TABLE 9 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Operational condition of life-saving, fire-fighting and other safety systems	<p>drills</p> <p>Maintenance of operational condition of life-saving, fire-fighting and other safety systems</p> <p>Actions to be taken to protect and safeguard all persons on board in emergencies</p> <p>Actions to limit damage and save the ship following fire, explosion, collision or grounding</p>		
Develop emergency and damage control plans and handle emergency situations	<p>Ship construction, including damage control</p> <p>Methods and aids for fire prevention, detection and extinction</p> <p>Functions and use of life-saving appliances</p>	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
Organise and manage the crew	<p>A knowledge of personnel management, organisation and training on board ship</p> <p>A knowledge of international maritime conventions and recommendations, and related national legislation</p>	Examination and assessment of evidence obtained from approved in-service training and experience	<p>The crew are allocated duties and informed of expected standards of work and behaviour in a manner appropriate to the individuals concerned</p> <p>Training objectives and activities are based on an assessment of current competence and capabilities and operational requirements</p>

TABLE 10
(Table A-II/4 of the STCW Code)

Specification of minimum standard of competence for ratings forming part of a navigational watch

Function: Navigation at the support level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Steer the ship and comply with helm orders also in the English language	Use of magnetic and gyro-compasses Helm orders Change-over from automatic pilot to hand steering and vice versa	Assessment of evidence obtained from — 1. practical test; or 2. approved in-service experience or approved training ship experience	A steady course is steered within acceptable limits having regard to the area of navigation and prevailing sea state. Alterations of course are smooth and controlled Communications are clear and concise at all times and orders are acknowledged in a seamanlike manner
Keep a proper look-out by sight and hearing	Responsibilities of a look-out, including reporting the approximate bearing of a sound signal, light or other object in degrees or points	Assessment of evidence obtained from — 1. practical test; or 2. approved in-service experience or approved training ship experience	Sound signals, lights and other objects are promptly detected and their appropriate bearing in degrees or points is reported to the officer of the watch
Contribute to monitoring and controlling a safe watch	Shipboard terms and definitions Use of appropriate internal communication and alarm systems Ability to understand orders and to communicate with the officer of the watch in matters relevant to watchkeeping duties Procedures for the relief, maintenance and handover of a watch	Assessment of evidence obtained from approved in-service experience or approved training ship experience	Communications are clear and concise and advice or clarification is sought from the officer on watch where watch information or instructions are not clearly understood Maintenance, handover and relief of the watch is in conformity with accepted practices and procedures

TABLE 10 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	Information required to maintain a safe watch Basic environmental protection procedures		
Operate emergency equipment and apply emergency procedures	Knowledge of emergency duties and alarm signals Knowledge of pyrotechnic distress signals; satellite EPIRBs and SARTs Avoidance of false distress alerts and action to be taken in event of accidental activation	Assessment of evidence obtained from demonstration and approved in-service experience or approved training ship experience	Initial action on becoming aware of an emergency or abnormal situation is in conformity with established practices and procedures Communications are clear and concise at all times and orders are acknowledged in a seamanlike manner The integrity of emergency and distress alerting systems is maintained at all times

TABLE 11
(Table A-III/4 of the STCW Code)

Specification of minimum standard of competence for ratings forming part of an engine room watch

Function: Marine engineering at the support level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Carry out a watch routine appropriate to the duties of a rating forming part of an engine room watch</p> <p>Understand orders and be understood in matters relevant to watchkeeping duties</p>	<p>Terms used in machinery spaces and names of machinery and equipment</p> <p>Engine room watchkeeping procedures</p> <p>Safe working practices as related to engine room operations</p> <p>Basic environmental protection procedures</p> <p>Use of appropriate internal communication system</p> <p>Engine room alarm systems and ability to distinguish between the various alarms, with special reference to fire-extinguishing gas alarms</p>	<p>Assessment of evidence obtained from one or more of the following –</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. practical test 	<p>Communications are clear and concise and advice or clarification is sought from the officer of the watch where watch information or instructions are not clearly understood</p> <p>Maintenance, handover and relief of the watch is in conformity with accepted principles and procedures</p>
<p>For keeping a boiler watch</p> <p>Maintain the correct water levels and steam pressures</p>	<p>Safe operation of boilers</p>	<p>Assessment of evidence obtained from one or more of the following –</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. practical test 	<p>Assessment of boiler condition is accurate and based on relevant information available from local and remote indicators and physical inspections</p> <p>The sequence and timing of adjustments maintains safety and optimum efficiency</p>

TABLE 11 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Operate emergency equipment and apply emergency procedures	<p>Knowledge of emergency duties</p> <p>Escape routes from machinery spaces</p> <p>Familiarity with the location and use of fire-fighting equipment in the machinery spaces</p>	Assessment of evidence obtained from demonstration and approved in-service experience or approved training ship experience	<p>Initial action on becoming aware of an emergency or abnormal situation conforms with established procedures</p> <p>Communications are clear and concise at all times and orders are acknowledged in a seamanlike manner</p>

TABLE 12
(Table A-VI/1-1 of the STCW Code)

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	<p>Types of emergency situations which may occur, such as collisions, fire, foundering</p> <p>Types of life-saving appliances normally carried on ships</p> <p>Equipment in survival craft</p> <p>Location of personal life-saving appliances</p> <p>Principles concerning survival, including –</p> <ol style="list-style-type: none"> 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. main dangers to survivors 	<p>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 –</p> <ol style="list-style-type: none"> 1. don a life jacket 2. don and use an immersion suit 3. safely jump from a height into the water 4. right an inverted liferaft while wearing a life jacket 5. swim while wearing a life jacket 6. keep afloat without a life jacket 7. board a survival craft from ship and water while wearing a life jacket 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 11. operate location devices, including radio equipment 	<p>Action taken on identifying muster signals is appropriate to the indicated emergency and complies with established procedures</p> <p>The timing and sequence of individual actions are appropriate to the prevailing circumstance and conditions and minimise potential dangers and threats to survival</p> <p>Method of boarding survival craft is appropriate and avoids dangers to other survivors</p> <p>Initial actions after leaving the ship and procedures and actions in water minimise threats to survival</p>

TABLE 13
(Table A-VI/1-2 of the STCW Code)

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
Minimise the risk of fire and maintain a state of readiness to respond to emergency situations involving fire	<p>Shipboard fire-fighting organisation</p> <p>Location of fire-fighting appliances and emergency escape routes</p> <p>The elements of fire and explosion (the fire triangle)</p> <p>Types and sources of ignition</p> <p>Flammable materials, fire hazards and spread of fire</p> <p>The need for constant vigilance</p> <p>Actions to be taken on board ship</p> <p>Fire and smoke detection and automatic alarm systems</p> <p>Classification of fire and applicable extinguishing agents</p>	Assessment of evidence obtained from approved instruction or attendance at an approved course	<p>Initial actions on becoming aware of an emergency conform with accepted practices and procedures</p> <p>Action taken on identifying muster signals is appropriate to the indicated emergency and complies with established procedures</p>
Fight and extinguish fires	<p>Fire-fighting equipment and its location on board</p> <p>Instruction in –</p> <ol style="list-style-type: none"> 1. fixed installations 2. firefighter's outfits 	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. si-	<p>Clothing and equipment are appropriate to the nature of the fire-fighting operations</p> <p>The timing and sequence of individual actions are appropriate to the prevailing</p>

TABLE 13 – (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<ol style="list-style-type: none"> 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 	<p>ulated shipboard conditions) and, whenever possible and practical, in darkness, of the ability to –</p> <ol style="list-style-type: none"> 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. enter and pass through, with lifeline but without breathing apparatus, a compartment into which high-expansion foam has been injected 7. fight fire in smoke-filled enclosed spaces wearing self-contained breathing apparatus 8. extinguish fire with water fog or any other suitable fire-fighting agent in an accommodation room or simulated engine room with fire and heavy smoke 9. extinguish oil fire with fog applicator and spray nozzles, dry chemical powder or foam applicators 10. effect a rescue in a smoke-filled space wearing breathing apparatus 	<p>circumstances and conditions</p> <p>Extinguishment of fire is achieved using appropriate procedures, techniques and fire-fighting agents</p> <p>Breathing apparatus procedures and techniques comply with accepted practices and procedures</p>

TABLE 14
(Table A-VI/1-3 of the STCW Code)

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 an accident or other medical emergency	<p>Assessment of needs of casualties and threats to own safety</p> <p>Appreciation of body structure and functions</p> <p>Understanding of immediate measures to be taken in cases of emergency, including the ability to -</p> <ol style="list-style-type: none"> 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 emergency kit 	Assessment of evidence obtained from approved instruction or during attendance at an approved course	<p>The manner and timing of raising the alarm is appropriate to the circumstances of the accident or medical emergency</p> <p>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</p> <p>Risk of further harm to self and casualty is minimised at all times</p>

TABLE 15
(Table A-VI/1-4 of the STCW Code)

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	<p>Types of emergency which may occur, such as collision, fire, foundering</p> <p>Knowledge of shipboard contingency plans for response to emergencies</p> <p>Emergency signals and specific duties allocated to crew members in the muster list; muster stations; correct use of personal safety equipment</p> <p>Action to take on discovering potential emergency, including fire, collision, foundering and ingress of water into the ship</p> <p>Action to take on hearing emergency alarm signals</p> <p>Value of training and drills</p> <p>Knowledge of escape routes and internal communication and alarm systems</p>	Assessment of evidence obtained from approved instruction or during attendance at an approved course	<p>Initial action on becoming aware of an emergency conforms to established emergency response procedures</p> <p>Information given on raising alarm is prompt, accurate, complete and clear</p>
Take precautions to prevent pollution of the marine environment	<p>Effects of operational or accidental pollution of the marine environment</p> <p>Basic environmental protection procedures</p>	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Organisational procedures designed to safeguard the marine environment are observed at all times

TABLE 15 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Observe safe working practices	<p>Importance of adhering to safe working practices at all times</p> <p>Safety and protective devices available to protect against potential hazards aboard ship</p> <p>Precautions to be taken prior to entering enclosed spaces</p> <p>Familiarisation with international measures concerning accident prevention and occupational health</p>	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Safe working practices are observed and appropriate safety and protective equipment is correctly used at all times
Understand orders and be understood in relation to shipboard duties	Ability to understand orders and to communicate with others in relation to shipboard duties	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Communications are clear and effective at all times
Contribute to effective human relationships on board ship	<p>Importance of maintaining good human and working relationships aboard ship</p> <p>Social responsibilities; employment conditions; individual rights and obligations; dangers of drug and alcohol abuse</p>	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

TABLE 16
(Table A-V/2 of the STCW Code)

rules 21(5) and 22(5)

Specification of minimum standard of competence in crisis management and human behaviour

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Organise ship-board emergency procedures	<p>Knowledge of —</p> <ol style="list-style-type: none"> 1. the general design and layout of the ship 2. safety regulations 3. emergency plans and procedures <p>The importance of the principles for the development of ship-specific emergency procedures including —</p> <ol style="list-style-type: none"> 1. the need for pre-planning and drills of shipboard emergency procedures 2. the need for all personnel to be aware of and adhere to pre-planned emergency procedures as carefully as possible in the event of an emergency situation 	Assessment of evidence obtained from approved training, exercises with one or more prepared emergency plans and practical demonstration	The shipboard emergency procedures ensure a state of readiness to respond to emergency situations
Optimise the use of resources	<p>Ability to optimise the use of resources, taking into account —</p> <ol style="list-style-type: none"> 1. the possibility that resources available in an emergency may be limited 2. the need to make full use of personnel and equipment immediately available and, if necessary, to improvise <p>Ability to organise realistic drills to maintain a state of readiness, taking into</p>	Assessment of evidence obtained from approved training, practical demonstration and shipboard training and drills of emergency procedures	<p>Contingency plans optimise the use of available resources</p> <p>Allocation of tasks and responsibilities reflects the known competence of individuals</p> <p>Roles and responsibilities of teams and individuals are clearly defined</p>

TABLE 16 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	account lessons learnt from previous accidents involving passenger ships; debriefing after drills		
Control response to emergencies	<p>Ability to make an initial assessment and provide an effective response to emergency situations in accordance with established emergency procedures</p> <p><i>Leadership skills</i> Ability to lead and direct others in emergency situations, including the need —</p> <ol style="list-style-type: none"> 1. to set an example during emergency situations 2. to focus decision-making, given the need to act quickly in an emergency 3. to motivate, encourage and reassure passengers and other personnel <p><i>Stress handling</i> Ability to identify the development of symptoms of excessive personal stress and those of other members of the ship's emergency team</p> <p>Understanding that stress generated by emergency situations can affect the performance of individuals and their ability to act on instructions and follow procedures</p>	Assessment of evidence obtained from approved training, practical demonstration and shipboard training and drills of emergency procedures	<p>Procedures and actions are in accordance with established principles and plans for crisis management on board</p> <p>Objectives and strategy are appropriate to the nature of the emergency, take account of contingencies and make optimum use of available resources</p> <p>Action of crew members contribute to maintaining order and control</p>

TABLE 16 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Control passengers and other personnel during emergency situations	<p><i>Human behaviour and responses</i> Ability to control passengers and other personnel in emergency situations, including —</p> <ol style="list-style-type: none"> 1. awareness of the general reaction patterns of passengers and other personnel in emergency situations, including the possibility that — <ol style="list-style-type: none"> a. generally it takes some time before people accept the fact that there is an emergency situation b. some people may panic and not behave with a normal level of rationality, that their ability to comprehend may be impaired and they may not be as responsive to instructions as in non-emergency situations 2. awareness that passengers and other personnel may, inter alia — <ol style="list-style-type: none"> a. start looking for relative, friends or their belongings as a first reaction when something goes wrong b. seek safety in their cabins or in other places on board where they think that they can escape danger c. tend to move to the upper side when the ship is listing 3. appreciation of the possible problem of panic resulting from separating families 	Assessment of evidence obtained from approved training, practical demonstration and shipboard training and drills of emergency procedures	Action of crew members contribute to maintaining order and control

TABLE 16 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Establish and maintain effective communications</p>	<p>Ability to establish and maintain effective communications, including —</p> <ol style="list-style-type: none"> 1. the importance of clear and concise instructions and reports 2. the need to encourage an exchange of information with, and feedback from, passengers and other personnel <p>Ability to provide relevant information to passengers and other personnel during an emergency situation, to keep them apprised of the overall situation and to communicate any action required of them, taking into account —</p> <ol style="list-style-type: none"> 1. the language or languages appropriate to the principal nationalities of passengers and other personnel carried on the particular route 2. the possible need to communicate during an emergency by some other means such as by demonstration, or by hand signals or calling attention to the location of instructions, muster stations, life-saving devices or evacuation routes, when oral communication is impractical 3. the language in which emergency announcements may be broadcast during an emergency or drill to convey critical guidance to passengers and to facilitate crew members in assisting passengers 	<p>Assessment of evidence obtained from approved training, exercises and practical demonstration</p>	<p>Information from all available sources is obtained, evaluated and confirmed as quickly as possible and reviewed throughout the emergency</p> <p>Information given to individuals, emergency response teams and passengers is accurate, relevant and timely</p> <p>Information keeps passengers informed as to the nature of the emergency and the actions required of them</p>

TABLE 17
(Table A-VI/2-1 of the STCW Code)

Specification of minimum standard of competence in survival craft and rescue boats other than fast rescue boats

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Take charge of a survival craft or rescue boat during and after launch	<p>Construction and outfit of survival craft and rescue boats and individual items of their equipment</p> <p>Particular characteristics and facilities of survival craft and rescue boats</p> <p>Various types of device used for launching survival craft and rescue boats</p> <p>Methods of launching survival craft into a rough sea</p> <p>Methods of recovering survival craft</p> <p>Action to be taken after leaving the ship</p> <p>Methods of launching and recovering rescue boats in a rough sea</p>	<p>Assessment of evidence obtained from practical demonstration of ability to —</p> <ol style="list-style-type: none"> 1. right an inverted liferaft while wearing a life jacket 2. interpret the markings on survival craft as to the number of persons they are intended to carry 3. give correct commands for launching and boarding survival craft, clearing the ship and handling and disembarking persons from survival craft 4. prepare and safely launch survival craft and clear the ship's side quickly 5. safely recover survival craft and rescue boats <p>using: inflatable liferaft and open or enclosed lifeboat with inboard engine</p>	<p>Preparations, boarding and launching of survival craft are within equipment limitations and enable survival craft to clear the ship safely</p> <p>Initial actions on leaving the ship minimise threat to survival</p> <p>Recovery of survival craft and rescue boats is within equipment limitations</p>
Operate a survival craft engine	<p>Methods of starting and operating a survival craft engine and its accessories together with the use of the fire extinguisher provided</p>	<p>Assessment of evidence obtained from practical demonstration of ability to start and operate an inboard engine fitted in an open or enclosed lifeboat</p>	<p>Propulsion is available and maintained as required for manoeuvring</p>
Manage survivors and survival craft after abandoning ship	<p>Handling survival craft in rough weather</p> <p>Use of painter, sea-anchor and all other equipment</p>	<p>Assessment of evidence obtained from practical demonstration of ability to —</p>	<p>Survival management is appropriate to prevailing circumstances and conditions</p>

TABLE 17 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>Apportionment of food and water in survival craft</p> <p>Action taken to maximise detectability and location of survival craft</p> <p>Method of helicopter rescue</p> <p>Effects of hypothermia and its prevention; use of protective covers and garments, including immersion suits and thermal protective aids</p> <p>Use of rescue boats and motor lifeboats for marshalling liferafts and rescue of survivors and persons in the sea</p> <p>Beaching survival craft</p>	<ol style="list-style-type: none"> 1. row and steer a boat and steer by compass 2. use individual items of equipment of survival craft 3. rig devices to aid location 	
Use locating devices, including communication and signalling apparatus and pyrotechnics	<p>Radio life-saving appliances carried in survival craft, including satellite EPIRBs and SARTs</p> <p>Pyrotechnic distress signals</p>	<p>Assessment of evidence obtained from practical demonstration of ability to —</p> <ol style="list-style-type: none"> 1. use portable radio equipment for survival craft 2. use signalling equipment, including pyrotechnics 	Use and choice of communication and signalling apparatus is appropriate to prevailing circumstances and conditions
Apply first aid to survivors	<p>Use of the first aid kit and resuscitation techniques</p> <p>Management of injured persons, including control of bleeding and shock</p>	Assessment of evidence obtained from practical demonstration of ability to deal with injured persons both during and after abandonment, using first aid kit and resuscitation techniques	<p>Identification of the probable cause, nature and extent of injuries or condition is prompt and accurate</p> <p>Priority and sequence of treatment minimises any threat to life</p>

TABLE 18
(Table A-VI/2-2 of the STCW Code)

Specification of minimum standard of competence in fast rescue boats

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Take charge of a fast rescue boat during and after launch	<p>Construction and outfit of fast rescue boats and individual items of their equipment</p> <p>Particular characteristics and facilities of fast rescue boats</p> <p>Safety precautions during launch and recovery of a fast rescue boat</p> <p>Procedures for righting a capsized fast rescue boat</p> <p>How to handle a fast rescue boat in prevailing and adverse weather and sea conditions</p> <p>Navigational and safety equipment available in a fast rescue boat</p> <p>Search patterns and environmental factors affecting their execution</p> <p>Assessment of the readiness of fast rescue boats and related equipment for immediate use</p> <p>Knowledge of the maintenance, emergency repairs, normal inflation and deflation of buoyancy</p>	<p>Assessment of evidence obtained from practical demonstration of ability to –</p> <ol style="list-style-type: none"> 1. control safe launching and recovery of a fast rescue boat 2. right a capsized fast rescue boat 3. handle a fast rescue boat in prevailing weather and sea conditions 4. swim in special equipment 5. use communication and signalling equipment between the fast rescue boat and a helicopter and a ship 6. use the emergency equipment carried 7. recover a casualty from the water and transfer a casualty to a rescue helicopter or to a ship or to a place of safety 8. carry out search patterns, taking account of environmental factors 	<p>Preparation, boarding, launching and operation of fast rescue boats is within equipment limitations</p>

TABLE 18 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	compartments of inflated fast rescue boats		
Operate a fast rescue boat engine	Methods of starting and operating a fast rescue boat engine and its accessories	Assessment of evidence obtained from practical demonstration of ability to start and operate a fast rescue boat engine	Engine is started and operated as required for manoeuvring

TABLE 19
(Table A-VI/3 of the STCW Code)

Specification of minimum standard of competence in advanced fire-fighting

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Control fire-fighting operations aboard ships	<p>Fire-fighting procedures at sea and in port with particular emphasis on organisation, tactics and command</p> <p>Use of water for fire-extinguishing, the effect on ship stability, precautions and corrective procedures</p> <p>Communication and co-ordination during fire-fighting operations</p> <p>Ventilation control, including smoke extractor</p> <p>Control of fuel and electrical systems</p> <p>Fire-fighting process hazards (dry distillation, chemical reactions, boiler uptake fires etc.)</p> <p>Fire-fighting involving dangerous goods</p> <p>Fire precautions and hazards associated with the storage and handling of materials (paints etc.)</p>	<p>Practical exercises and instruction conducted under approved and truly realistic training conditions (e.g., simulated shipboard conditions) and, whenever possible and practicable, in darkness</p>	<p>Actions taken to control fires are based on a full and accurate assessment of the incident, using all available sources of information</p> <p>The order of priority, timing and sequence of actions are appropriate to the overall requirements of the incident and to minimise damage and potential damage to the ship, injuries to personnel and impairment of the operational effectiveness of the ship</p> <p>Transmission of information is prompt, accurate, complete and clear</p> <p>Personal safety during fire control activities is safeguarded at all times</p>

TABLE 19 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>Management and control of injured persons</p> <p>Procedures for co-ordination with shore-based firefighters</p>		
Organise and train fire parties	<p>Preparation of contingency plans</p> <p>Composition and allocation of personnel to fire parties</p> <p>Strategies and tactics for control of fires in various parts of the ship</p>	Practical exercises and instruction conducted under approved and truly realistic training conditions, e.g. simulated shipboard conditions	Composition and organisation of fire control parties ensure the prompt and effective implementation of emergency plans and procedures
Inspect and service fire-detection and extinguishing systems and equipment	<p>Fire-detection systems; fixed fire-extinguishing systems, portable and mobile fire-extinguishing equipment including appliances, pumps and rescue, salvage, life-support, personal protective and communication equipment</p> <p>Requirements for statutory and classification surveys</p>	Practical exercises using approved equipment and systems in a realistic training environment	Operational effectiveness of all fire-detection and extinguishing systems and equipment is maintained at all times in accordance with performance specifications and legislative requirements
Investigate and compile reports on incidents involving fire	Assessment of cause of incidents involving fire	Practical exercises in a realistic training environment	Causes of fire are identified and the effectiveness of countermeasures is evaluated

TABLE 20
(Table A-VI/4-1 of the STCW Code)

Specification of minimum standard of competence in medical first aid

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Apply immediate first aid in the event of accident or illness on board	<p>First aid kit</p> <p>Body structure and function</p> <p>Toxicological hazards on board, including use of the Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG) or its national equivalent</p> <p>Examination of casualty or patient</p> <p>Spinal injuries</p> <p>Burns, scalds and effects of heat and cold</p> <p>Fractures, dislocations and muscular injuries</p> <p>Medical care of rescued persons</p> <p>Radio medical advice</p> <p>Pharmacology</p> <p>Sterilisation</p> <p>Cardiac arrest, drowning and asphyxia</p>	Assessment of evidence obtained from practical instruction	<p>The identification of probable cause, nature and extent of injuries is prompt, complete and conforms to current first aid practice</p> <p>Risk of harm to self and others is minimised at all times</p> <p>Treatment of injuries and the patient's condition is appropriate, conforms to recognised first aid practice and international guidelines</p>

TABLE 21
(Table A-VI/4-2 of the STCW Code)

Specification of minimum standard of competence for persons in charge of medical care on board ship

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Provide medical care to the sick and injured while they remain on board	<p>Care of casualty involving —</p> <ol style="list-style-type: none"> 1. head and spinal injuries 2. injuries of ear, nose, throat and eyes 3. external and internal bleeding 4. burns, scalds and frostbite 5. fractures, dislocations and muscular injuries 6. wounds, wound healing and infection 7. pain relief 8. techniques of sewing and clamping 9. management of acute abdominal conditions 10. minor surgical treatment 11. dressing and bandaging <p>Aspects of nursing —</p> <ol style="list-style-type: none"> 1. general principles 2. nursing care <p>Diseases, including —</p> <ol style="list-style-type: none"> 1. medical conditions and emergencies 2. sexually transmitted diseases 3. tropical and infectious diseases <p>Alcohol and drug abuse</p> <p>Dental care</p>	<p>Assessment of evidence obtained from practical instruction and demonstration</p> <p>Where practicable, approved practical experience at a hospital or similar establishment</p>	<p>Identification of symptoms is based on the concepts of clinical examination and medical history</p> <p>Protection against infection and spread of diseases is complete and effective</p> <p>Personal attitude is calm, confident and reassuring</p> <p>Treatment of injury or condition is appropriate and conforms to accepted medical practice and relevant national and international medical guides</p> <p>The dosage and application of drugs and medication complies with manufacturers' recommendations and accepted medical practice</p> <p>The significance of changes in patient's condition is promptly recognised</p>

TABLE 21 — (continued)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>Gynaecology, pregnancy and childbirth</p> <p>Medical care of rescued persons</p> <p>Death at sea</p> <p>Hygiene</p> <p>Disease prevention, including —</p> <ol style="list-style-type: none"> 1. disinfection, disinfestations, deratting 2. vaccinations <p>Keeping records and copies of applicable regulations —</p> <ol style="list-style-type: none"> 1. keeping medical records 2. international and national maritime medical regulations 		
<p>Participate in co-ordinated schemes for medical assistance to ships</p>	<p>External assistance, including —</p> <ol style="list-style-type: none"> 1. radio medical advice 2. transportation of the ill and injured, including helicopter evacuation 3. medical care of sick seafarers involving co-operation with port health authorities or out-patient wards in port 		<p>Clinical examination procedures are complete and comply with instructions received</p> <p>The method and preparation for evacuation is in accordance with recognised procedures and is designed to maximise the welfare of the patient</p> <p>Procedures for seeking radio medical advice conform to established practice and recommendations</p>

STANDARDS REGARDING WATCHKEEPING

(Section A-VIII/1 of the STCW Code)

Fitness for duty

1. All persons who are assigned duty as officer in charge of a watch or as a rating forming part of a watch shall be provided a minimum of 10 hours of rest in any 24-hour period.
2. The hours of rest may be divided into no more than 2 periods, one of which shall be at least 6 hours in length.
3. The requirements for rest periods laid down in paragraphs 1 and 2 need not be maintained in the case of an emergency or drill or in other overriding operational conditions.
4. Notwithstanding paragraphs 1 and 2, the minimum period of 10 hours may be reduced to not less than 6 consecutive hours, provided that any such reduction shall not extend beyond 2 days and not less than 70 hours of rest are provided each 7-day period.
5. The Director shall require that watch schedules be posted where they are easily accessible.

(Section A-VIII/2 of the STCW Code)

Watchkeeping arrangements and principles to be observed

PART 1

CERTIFICATION

1. The officer in charge of the navigational or deck watch shall be duly qualified in accordance with Chapter II or VII of the STCW Code appropriate to the duties related to navigational or deck watchkeeping.
2. The officer in charge of the engineering watch shall be duly qualified in accordance with Chapter III or VII of the STCW Code appropriate to the duties related to engineering watchkeeping.

PART 2

VOYAGE PLANNING

General requirements.

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

4. The chief engineer officer shall, in consultation with the master, determine in advance the needs of the intended voyage, taking into consideration the requirements for fuel, water, lubricants, chemicals, expendable and other spare parts, tools, supplies and any other requirements.

Planning prior to each voyage.

5. Prior to each voyage the master of every ship shall ensure that the intended route from the port of departure to the first port of call is planned using adequate and appropriate charts and other nautical publications necessary for the intended voyage containing accurate, complete and up-to-date information regarding those navigational limitations and hazards which are of a permanent or predictable nature and which are relevant to the safe navigation of the ship.

Verification and display of planned route.

6. When the route planning is verified taking into consideration all pertinent information, the planned route shall be clearly displayed on appropriate charts and shall be continuously available to the officer in charge of the watch, who shall verify each course to be followed prior to using it during the voyage.

Deviation from planned route.

7. If a decision is made, during a voyage, to change the next port of call of the planned route, or if it is necessary for the ship to deviate substantially from the planned route for other reasons, then an amended route shall be planned prior to deviating substantially from the route originally planned.

PART 3

WATCHKEEPING AT SEA

Principles applying to watchkeeping generally.

8. Parties shall direct the attention of companies, masters, chief engineer officers and watchkeeping personnel to the following principles, which shall be observed to ensure that safe watches are maintained at all times.

9. The master of every ship is bound to ensure that watchkeeping arrangements are adequate for maintaining a safe navigational watch. Under the master's general direction, the officers of the navigational watch are responsible for navigating the ship safely during their periods of duty, when they will be particularly concerned with avoiding collision and stranding.

10. The chief engineer officer of every ship is bound, in consultation with the master, to ensure that watchkeeping arrangements are adequate to maintain a safe engineering watch.

Protection of marine environment.

11. The master, officers and ratings 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.

PART 3 - 1

PRINCIPLES TO BE OBSERVED IN KEEPING NAVIGATIONAL WATCH

12. The officer in charge of the navigational watch is the master's representative and is primarily responsible at all times for the safe navigation of the ship and for complying with the International Regulations for Preventing Collisions at Sea, 1972.

Look-out.

13. A proper look-out shall be maintained at all times in compliance with rule 5 of the International Regulations for Preventing Collisions at Sea and shall serve the purpose of —

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

(b) fully appraising the situation and the risk of collision, stranding and other dangers to navigation; and

(c) detecting ships or aircraft in distress, shipwrecked persons, wrecks, debris and other hazards to safe navigation.

14. The look-out must be able to give full attention to the keeping of a proper look-out and no other duties shall be undertaken or assigned which could interfere with that task.

15. The duties of the look-out and helmsperson are separate and the helmsperson shall not be considered to be the look-out while steering, except in small ships where in an unobstructed all-round view is provided at the steering position and there is no impairment of night vision or other impediment to keeping a proper look-out. The officer in charge of the navigational watch may be the sole look-out in daylight provided that on each such occasion —

(a) the situation has been carefully assessed and it has been established without doubt that it is safe to do so;

(b) full account has been taken of all relevant factors, including but not limited to —

(i) the state of weather;

(ii) visibility;

(iii) traffic density;

(iv) proximity of dangers to navigation; and

(v) the attention necessary when navigating in or near traffic separation schemes; and

(c) assistance is immediately available to be summoned to the bridge when any change in the situation so requires.

16. In determining that the composition of the navigational watch is adequate to ensure that a proper look-out can continuously be maintained, the master shall take into account all relevant factors, including those described in this section of the Code as well as the following factors —

(a) visibility, state of weather and sea;

(b) traffic density, and other activities occurring in the area in which the ship is navigating;

(c) the attention necessary when navigating in or near traffic separation schemes or other routing measures;

(d) the additional workload caused by the nature of the ship's functions, immediate operating requirements and anticipated manoeuvres;

(e) the fitness for duty of any crew members on call who are assigned as members of the watch;

(f) knowledge of and confidence in the professional competence of the ship's officers and crew;

(g) the experience of each officer of the navigational watch, and the familiarity of that officer with the ship's equipment, procedures, and manoeuvring capability;

(h) activities taking place on board the ship at any particular time, including radio communication activities, and the availability of assistance to be summoned immediately to the bridge when necessary;

(i) the operational status of bridge instrumentation and controls, including alarm systems;

(j) rudder and propeller control and ship manoeuvring characteristics;

(k) the size of the ship and the field of vision available from the conning position;

(l) the configuration of the bridge, to the extent such configuration might inhibit a member of the watch from detecting by sight or hearing any external development; and

(m) any other relevant standard, procedure or guidance relating to watchkeeping arrangements and fitness for duty which has been adopted by the IMO.

Watch arrangements.

17. When deciding the composition of the watch on the bridge, which may include appropriately qualified ratings, the following factors, *inter alia*, shall be taken into account —

(a) at no time shall the bridge be left unattended;

(b) weather conditions, visibility and whether there is daylight or darkness;

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

(d) use and operational condition of navigational aids such as radar or electronic position-indicating devices and any other equipment affecting the safe navigation of the ship;

(e) whether the ship is fitted with automatic steering;

(f) whether there are radio duties to be performed;

(g) unmanned machinery space (UMS) controls, alarms and indicators provided on the bridge, procedures for their use and limitations; and

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

Taking over watch.

18. The officer in charge of the navigational watch shall not hand over the watch to the 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 master shall be notified.

19. The relieving officer shall ensure that the members of the relieving watch are fully capable of performing their duties, particularly as regards their adjustment to night vision. Relieving officers shall not take over the watch until their vision is fully adjusted to the light conditions.

20. Prior to taking over the watch, relieving officers shall satisfy themselves as to the ship's estimated or true position and confirm its intended track, course and speed, and UMS controls as appropriate and shall note any dangers to navigation expected to be encountered during their watch.

21. Relieving officers shall personally satisfy themselves regarding the —

(a) standing orders and other special instructions of the master relating to navigation of the ship;

(b) position, course, speed and draught of the ship;

(c) prevailing and predicted tides, currents, weather, visibility and the effect of these factors upon course and speed;

(d) procedures for the use of main engines to manoeuvre when the main engines are on bridge control; and

(e) navigational situation, including but not limited to —

- (i) the operational condition of all navigational and safety equipment being used or likely to be used during the watch;
- (ii) the errors of gyro- and magnetic compasses;
- (iii) the presence and movement of ships in sight or known to be in the vicinity;
- (iv) the conditions and hazards likely to be encountered during the watch; and
- (v) the possible effects of heel, trim, water density and squat on underkeel clearance.

22. If at any time the officer in charge of the navigational watch is to be relieved when a manoeuvre or other action to avoid any hazard is taking place, the relief of that officer shall be deferred until such action has been completed.

Performing navigational watch.

23. The officer in charge of the navigational watch shall —

(a) keep the watch on the bridge;

(b) in no circumstances leave the bridge until properly relieved;

(c) continue to be responsible for the safe navigation of the ship, despite the presence of the master on the bridge, until informed specifically that the master has assumed that responsibility and this is mutually understood; and

(d) notify the master when in any doubt as to what action to take in the interest of safety.

24. 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 ship follows the planned course.

25. The officer in charge of the navigational watch shall have full knowledge of the location and operation of all safety and navigational equipment on board the

ship and shall be aware and take account of the operating limitations of such equipment.

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

27. Officers of the navigational watch shall make the most effective use of all navigational equipment at their disposal.

28. When using radar, the officer in charge of the navigational watch shall bear in mind the necessity to comply at all times with the provisions on the use of radar contained in the International Regulations for Preventing Collisions at Sea, in force.

29. In cases of need, the officer in charge of the navigational watch shall not hesitate to use the helm, engines and sound signalling apparatus. However, timely notice of intended variations of engine speed shall be given where possible or effective use made of UMS engine controls provided on the bridge in accordance with the applicable procedures.

30. Officers of the navigational watch shall know the handling characteristics of their ship, including its stopping distances, and should appreciate that other ships may have different handling characteristics.

31. A proper record shall be kept during the watch of the movements and activities relating to the navigation of the ship.

32. It is of special importance that at all times the officer in charge of the navigational watch ensures that a proper look-out is maintained. In a ship with a separate chartroom the officer in charge of the navigational watch may visit the chartroom, when essential, for a short period for the necessary performance of navigational duties, but shall first ensure that it is safe to do so and that proper look-out is maintained.

33. Operational tests of shipboard navigational equipment shall be carried out at sea as frequently as practicable and as circumstances permit, in particular before hazardous conditions affecting navigation are expected. Whenever appropriate, these tests shall be recorded. Such tests shall also be carried out prior to port arrival and departure.

34. The officer in charge of the navigational watch shall make regular checks to ensure that —

- (a) the person steering the ship or the automatic pilot is steering the correct course;

(b) the standard compass error is determined at least once a watch and, when possible, after any major alteration of course; the standard and gyro-compasses are frequently compared and repeaters are synchronised with their master compass;

(c) the automatic pilot is tested manually at least once a watch;

(d) the navigation and signal lights and other navigational equipment are functioning properly;

(e) the radio equipment is functioning properly in accordance with paragraph 86; and

(f) the UMS controls, alarms and indicators are functioning properly.

35. The officer in charge of the navigational watch shall bear in mind the necessity to comply at all times with the requirements in force under the SOLAS Convention. The officer of the navigational watch shall take into account —

(a) the need to station a person to steer the ship and to put the steering into manual control in good time to allow any potentially hazardous situation to be dealt with in a safe manner; and

(b) that with a ship under automatic steering it is highly dangerous to allow a situation to develop to the point where the officer in charge of the navigational watch is without assistance and has to break the continuity of the look-out in order to take emergency action.

36. Officers of the navigational watch shall be thoroughly familiar with the use of all electronic navigational aids carried, including their capabilities and limitations, and shall use each of these aids when appropriate and shall bear in mind that the echo-sounder is an invaluable navigational aid.

37. The officer in charge of the navigational watch shall use the radar whenever restricted visibility is encountered or expected, and at all times in congested waters, having due regard to its limitations.

38. The officer in charge of the navigational watch shall ensure that range scales employed are changed at sufficiently frequent intervals so that echoes are detected as early as possible. It shall be borne in mind that small or poor echoes may escape detection.

39. Whenever radar is in use, the officer in charge of the navigational watch shall select an appropriate range scale and observe the display carefully, and shall ensure that plotting or systematic analysis is commenced in ample time.

40. The officer in charge of the navigational watch shall notify the master immediately —

- (a) if restricted visibility is encountered or expected;
- (b) if the traffic conditions or the movements of other ships are causing concern;
- (c) if difficulty is experienced in maintaining course;
- (d) on failure to sight land, a navigation mark or to obtain soundings by the expected time;
- (e) if, unexpectedly, land or a navigation mark is sighted or a change in soundings occurs;
- (f) on breakdown of the engines, propulsion machinery remote control, steering gear or any essential navigational equipment, alarm or indicator;
- (g) if the radio equipment malfunctions;
- (h) in heavy weather, if in any doubt about the possibility of weather damage;
- (i) if the ship meets any hazard to navigation, such as ice or a derelict; and
- (j) in any other emergency or if in any doubt.

41. Despite the requirement to notify the master immediately in the foregoing circumstances, the officer in charge of the navigational watch shall in addition not hesitate to take immediate action for the safety of the ship, where circumstances so require.

42. The officer in charge of the navigational watch shall give watchkeeping personnel all appropriate instructions and information which will ensure the keeping of a safe watch, including a proper look-out.

Watchkeeping under different conditions and in different areas

Clear weather.

43. The officer in charge of the navigational watch shall take frequent and accurate compass bearings of approaching ships as a means of early detection of risk of collision and bear in mind that such risk may sometimes exist even when

an appreciable bearing change is evident, particularly when approaching a very large ship or a tow or when approaching a ship at close range. The officer in charge of the navigational watch shall also take early and positive action in compliance with the applicable International Regulations for Preventing Collisions at Sea and subsequently check that such action is having the desired effect.

44. In clear weather, whenever possible, the officer in charge of the navigational watch shall carry out radar practice.

Restricted visibility.

45. When restricted visibility is encountered or expected, the first responsibility of the officer in charge of the navigational watch is to comply with the relevant rules of the International Regulations for Preventing Collisions at Sea with particular regard to the sounding of fog signals, proceeding at a safe speed and having the engines ready for immediate manoeuvre. In addition, the officer in charge of the navigational watch shall —

- (a) inform the master;
- (b) post a proper look-out;
- (c) exhibit navigation lights; and
- (d) operate and use the radar.

In hours of darkness.

46. The master and the officer in charge of the navigational watch, when arranging look-out duty, shall have due regard to the bridge equipment and navigational aids available for use, their limitations; procedures and safeguards implemented.

Coastal and congested waters.

47. The largest scale chart on board, suitable for the area and corrected with the latest available information, shall be used. Fixes shall be taken at frequent intervals, and shall be carried out by more than one method whenever circumstances allow.

48. The officer in charge of the navigational watch shall positively identify all relevant navigation marks.

Navigation with pilot on board.

49. Despite the duties and obligations of pilots, their presence on board does not relieve the master or officer in charge of the navigational watch from their duties and obligations for the safety of the ship. The master and the pilot shall exchange information regarding navigation procedures, local conditions and the ship's characteristics. The master or the officer in charge of the navigational watch shall co-operate closely with the pilot and maintain an accurate check on the ship's position and movement.

50. If in any doubt as to the pilot's actions or intentions, the officer in charge of the navigational watch shall seek clarification from the pilot and, if doubt still exists, shall notify the master immediately and take whatever action is necessary before the master arrives.

Ship at anchor.

51. If the master considers it necessary, a continuous navigational watch shall be maintained at anchor. While at anchor, the officer in charge of the navigational watch shall —

- (a) determine and plot the ship's position on the appropriate chart as soon as practicable;
- (b) when circumstances permit, check at sufficiently frequent intervals whether the ship is remaining securely at anchor by taking bearings of fixed navigation marks or readily identifiable shore objects;
- (c) ensure that proper look-out is maintained;
- (d) ensure that inspection rounds of the ship are made periodically;
- (e) observe meteorological and tidal conditions and the state of the sea;
- (f) notify the master and undertake all necessary measures if the ship drags anchor;
- (g) ensure that the state of readiness of the main engines and other machinery is in accordance with the master's instructions;
- (h) if visibility deteriorates, notify the master;
- (i) ensure that the ship exhibits the appropriate lights and shapes and that appropriate sound signals are made in accordance with all applicable regulations; and

(j) take measures to protect the environment from pollution by the ship and comply with applicable pollution regulations.

PART 3 - 2

PRINCIPLES TO BE OBSERVED IN KEEPING ENGINEERING WATCH

52. In Parts 3-2, 4-2 and 4-4, the term "engineering watch" means either a person or a group of personnel comprising the watch or a period of responsibility for an officer during which the physical presence in machinery spaces of that officer may or may not be required.

53. The officer in charge of the engineering watch is the chief engineer officer's representative and is primarily responsible, at all times, for the safe and efficient operation and upkeep of machinery affecting the safety of the ship and is responsible for the inspection, operation and testing, as required, of all machinery and equipment under the responsibility of the engineering watch.

Watch arrangements.

54. The composition of the engineering watch shall, at all times, be adequate to ensure the safe operation of all machinery affecting the operation of the ship, in either automated or manual mode, and be appropriate to the prevailing circumstances and conditions.

55. When deciding the composition of the engineering watch, which may include appropriately qualified ratings, the following criteria, *inter alia*, shall be taken into account —

- (a) the type of ship and the type and condition of the machinery;
- (b) the adequate supervision, at all times, of machinery affecting the safe operation of the ship;
- (c) any special modes of operation dictated by conditions such as weather, ice contaminated water, shallow water, emergency conditions, damage containment or pollution abatement;
- (d) the qualifications and experience of the engineering watch;
- (e) the safety of life, ship, cargo and port, and protection of the environment;
- (f) the observance of international, national and local regulations; and
- (g) maintaining the normal operations of the ship.

Taking over watch.

56. 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.

57. 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.

58. Prior to taking over the engineering watch, relieving officers shall satisfy themselves regarding at least the following —

(a) the standing orders and special instructions of the chief engineer officer relating to the operation of the ship's systems and machinery;

(b) the nature of all work being performed on machinery and systems, the personnel involved and potential hazards;

(c) the level and, where applicable, the condition of water or residues in bilges, ballast tanks, slop tanks, reserve tanks, fresh water tanks, sewage tanks and any special requirements for use or disposal of the contents thereof;

(d) the condition and level of fuel in the reserve tanks, settling tank, day tank and other fuel storage facilities;

(e) any special requirements relating to sanitary system disposals;

(f) condition and mode of operation of the various main and auxiliary systems, including the electrical power distribution system;

(g) where applicable, the condition of monitoring and control console equipment, and which equipment is being operated manually;

(h) where applicable, the condition and mode of operation of automatic boiler controls such as flame safeguard control systems, limit control systems, combustion control systems, fuel-supply control systems and other equipment related to the operation of steam boilers;

(i) any potentially adverse conditions resulting from bad weather, ice, or contaminated or shallow water;

(j) the reports of engine room ratings relating to their assigned duties;

(k) the availability of fire-fighting appliances; and

(l) the state of completion of engine room log.

Performing engineering watch.

59. The officer in charge of the engineering watch shall ensure that the established watchkeeping arrangements are maintained, and that, under direction, engine room ratings, if forming part of an engineering watch, assist in the safe and efficient operation of the propulsion machinery and auxiliary equipment.

60. 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 that responsibility and this is mutually understood.

61. All members of the engineering watch shall be familiar with their assigned watchkeeping duties. In addition, every member shall, with respect to the ship they are serving in, have knowledge of —

(a) the use of appropriate internal communication systems;

(b) the escape routes from machinery spaces;

(c) the engine room alarm systems and be able to distinguish between the various alarms, with special reference to the fire-extinguishing media alarm; and

(d) the number, location and types of fire-fighting equipment and damage control gear in the machinery spaces, together with their use and the various safety precautions to be observed.

62. Any machinery not functioning properly, expected to malfunction or requiring special service shall be noted along with any action already taken. Plans shall be made for any further action if required.

63. When the machinery spaces are in the manned condition, the officer in charge of the engineering watch shall at all times be readily capable of operating the propulsion equipment in response to needs for changes in direction or speed.

64. When the machinery spaces are in the periodic unmanned condition, the designated duty officer in charge of the engineering watch shall be immediately available and on call to attend the machinery spaces.

65. All bridge orders shall be promptly executed. Changes in direction or speed of the main propulsion units shall be recorded, except where the Director has determined that the size or characteristics of a particular ship make such

recording impracticable. The officer in charge of the engineering watch shall ensure that the main propulsion unit controls, when in the manual mode of operation, are continuously attended under stand-by or manoeuvring conditions.

66. Due attention shall be paid to the ongoing maintenance and support of all machinery, including mechanical, electrical, electronic, hydraulic and pneumatic systems, their control apparatus and associated safety equipment, all accommodation service systems equipment and the recording of stores and spare gear usage.

67. The chief engineer officer shall ensure that the officer in charge of the engineering watch is informed of all preventive maintenance, damage control, or repair operations to be performed during the engineering watch. 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.

68. When the engine room is put in a stand-by condition, the officer in charge of the engineering watch shall ensure that all machinery and equipment which may be used during manoeuvring is in a state of immediate readiness and that an adequate reserve of power is available for steering gear and other requirements.

69. Officers in charge of an engineering watch shall not be assigned or undertake any duties which would interfere with their supervisory duties in respect of the main propulsion system and ancillary equipment. They shall keep the main propulsion plant and auxiliary systems under constant supervision until properly relieved, and shall periodically inspect the machinery in their charge. They shall also ensure that adequate rounds of the machinery and steering gear spaces are made for the purpose of observing and reporting equipment malfunctions or breakdowns, performing or directing routine adjustments, required upkeep and any other necessary tasks.

70. Officers in charge of an engineering watch shall direct any other member of the engineering watch to inform them of potentially hazardous conditions which may adversely affect the machinery or jeopardise the safety of life or of the ship.

71. The officer in charge of the engineering watch shall ensure that the machinery space watch is supervised, and shall arrange for substitute personnel in the event of the incapacity of any engineering watch personnel. The engineering watch shall not leave the machinery spaces unsupervised in a manner that would prevent the manual operation of the engine room plant or throttles.

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

73. 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.

74. The officer in charge of the engineering watch shall co-operate with any engineer in charge of maintenance work during all preventive maintenance, damage control or repairs. This shall include but not necessarily be limited to —

(a) isolating and bypassing machinery to be worked on;

(b) adjusting the remaining plant to function adequately and safely during the maintenance period;

(c) recording, in the engine room log or other suitable document, the equipment worked on and the personnel involved, and which safety steps have been taken and by whom, for the benefit of relieving officers and for record purposes; and

(d) testing and putting into service, when necessary, the repaired machinery and equipment.

75. The officer in charge of the engineering watch shall ensure that any engine room ratings who perform maintenance duties are available to assist in the manual operation of machinery in the event of automatic equipment failure.

76. The officer in charge of the engineering watch shall bear in mind that changes in speed, resulting from machinery malfunction, or loss of steering, may imperil the safety of the ship 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 ship's speed, imminent steering failure, stoppage of the ship'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.

77. The officer in charge of the engineering watch shall notify the chief engineer officer without delay —

(a) when engine damage or malfunction occurs which may be such as to endanger the safe operation of the ship;

(b) when any malfunction occurs which, it is believed, may cause damage or breakdown of propulsion machinery, auxiliary machinery or monitoring and governing systems; and

(c) in any emergency or if in any doubt as to what decision or measures to take.

78. Despite the requirement to notify the chief engineer officer in the foregoing circumstances, the officer in charge of an engineering watch shall not hesitate to take immediate action for the safety of the ship, its machinery and crew where circumstances require.

79. The officer in charge of the engineering watch shall give the watchkeeping personnel all appropriate instructions and information which will ensure the keeping of a safe engineering watch. Routine machinery upkeep, performed as incidental tasks as part of keeping a safe watch, shall be set up as an integral part of the watch routine. Detailed repair maintenance involving repairs to electrical, mechanical, hydraulic, pneumatic or applicable electronic equipment throughout the ship shall be performed with the cognisance of the officer in charge of the engineering watch and chief engineer officer. These repairs shall be recorded.

Engineering watchkeeping under different conditions and in different areas

Restricted visibility.

80. The officer in charge of the engineering watch shall ensure that permanent air or steam pressure is available for sound signals and that at all times bridge orders relating to changes in speed or direction of operation are immediately implemented and, in addition, that auxiliary machinery used for manoeuvring is readily available.

Coastal and congested waters.

81. The officer in charge of the engineering watch shall ensure that all machinery involved with the manoeuvring of the ship can immediately be placed in the manual mode of operation when notified that the ship is in congested waters. The officer in charge of the engineering watch shall also ensure that an adequate reserve of power is available for steering and other manoeuvring requirements. Emergency steering and other auxiliary equipment shall be ready for immediate operation.

Ship at anchor.

82. At an unsheltered anchorage the chief engineer officer shall consult with the master whether or not to maintain the same engineering watch as when under way.

83. When a ship is at anchor in an open roadstead or any other virtually "at-sea" condition, the engineer officer in charge of the engineering watch shall ensure that —

- (a) an efficient engineering watch is kept;
- (b) periodic inspection is made of all operating and stand-by machinery;
- (c) main and auxiliary machinery is maintained in a state of readiness in accordance with orders from the bridge;
- (d) measures are taken to protect the environment from pollution by the ship, and that applicable pollution prevention regulations are complied with; and
- (e) all damage control and fire-fighting systems are in readiness.

PART 3 - 3

PRINCIPLES TO BE OBSERVED IN KEEPING RADIO WATCH

General provisions.

84. The Director shall direct the attention of companies, masters and radio watchkeeping personnel to comply with the following provisions to ensure that an adequate safety radio watch is maintained while a ship is at sea. In complying with the STCW Code, account shall be taken of the Radio Regulations.

Watch arrangements.

85. In deciding the arrangements for the radio watch, the master of every seagoing ship shall —

- (a) ensure that the radio watch is maintained in accordance with the relevant provisions of the Radio Regulations and the SOLAS Convention;
- (b) ensure that the primary duties for radio watchkeeping are not adversely affected by attending to radio traffic not relevant to the safe movement of the ship and safety of navigation; and
- (c) take into account the radio equipment fitted on board and its operational status.

Performing radio watch.

86. The radio operator performing radio watchkeeping duties shall —

(a) ensure that watch is maintained on the frequencies specified in the Radio Regulations and the SOLAS Convention; and

(b) while on duty, regularly check the operation of the radio equipment and sources of energy and report to the master any observed failure of the equipment.

87. The requirements of the Radio Regulations and the SOLAS Convention on keeping a radiotelegraph or radio log, as appropriate, shall be complied with.

88. The maintenance of radio records, in compliance with the requirements of the Radio Regulations and the SOLAS Convention, is the responsibility of the radio operator designated as having primary responsibility for radio communications during distress incidents. The following shall be recorded, together with the times at which they occur —

(a) a summary of distress, urgency and safety radio communications;

(b) important incidents relating to the radio service;

(c) where appropriate, the position of the ship at least once per day; and

(d) a summary of the condition of the radio equipment, including its sources of energy.

89. The radio records shall be kept at the distress communications operating position, and shall be made available —

(a) for inspection by the master; and

(b) for inspection by any authorised official of the Administration and by any duly authorised officer exercising control under Article X of the Convention.

PART 4

WATCHKEEPING IN PORT

Principles applying to all watchkeeping

General.

90. On any ship safely moored or safely at anchor under normal circumstances in port, the master shall arrange for an appropriate and effective watch to be maintained for the purpose of safety. Special requirements may be necessary for special types of ships' propulsion systems or ancillary equipment and for ships carrying hazardous, dangerous, toxic or highly flammable materials or other special types of cargo.

Watch arrangements.

91. Arrangements for keeping a deck watch when the ship is in port shall at all times be adequate to —

(a) ensure the safety of life, of the ship, the port and the environment, and the safe operation of all machinery related to cargo operation;

(b) observe international, national and local rules; and

(c) maintain order and the normal routine of the ship.

92. The master shall decide the composition and duration of the deck watch depending on the conditions of mooring, type of the ship and character of duties.

93. If the master considers it necessary, a qualified officer shall be in charge of the deck watch.

94. The necessary equipment shall be so arranged as to provide for efficient watchkeeping.

95. The chief engineer officer, in consultation with the master, shall ensure that engineering watchkeeping arrangements are adequate to maintain a safe engineering watch while in port. When deciding the composition of the engineering watch, which may include appropriate engine room ratings, the following points are among those to be taken into account —

(a) on all ships of 3,000 kW propulsion power and over there shall always be an officer in charge of the engineering watch;

(b) on ships of less than 3,000 kW propulsion power there may be, at the master's discretion and in consultation with the chief engineer officer, no officer in charge of the engineering watch; and

(c) officers, while in charge of an engineering watch, shall not be assigned or undertake any task or duty which would interfere with their supervisory duty in respect of the ship's machinery system.

Taking over watch.

96. Officers in charge of the deck or engineering watch shall not hand over the watch to their relieving officer if they have any reason to believe that the latter is obviously not capable of carrying out watchkeeping duties effectively, in which case the master or chief engineer officer shall be notified accordingly. Relieving officers of the deck or engineering watch shall ensure that all members of their watch are apparently fully capable of performing their duties effectively.

97. If, at the moment of handing over the deck or engineering watch, an important operation is being performed, it shall be concluded by the officer being relieved, except when ordered otherwise by the master or chief engineer officer.

PART 4 - I

TAKING OVER DECK WATCH

98. Prior to taking over the deck watch, the relieving officer shall be informed of the following by the officer in charge of the deck watch as to —

(a) the depth of the water at the berth, the ship's draught, the level and time of high and low waters; the securing of the moorings, the arrangement of anchors and the scope of the anchor chain, and other mooring features important to the safety of the ship; the state of main engines and the availability for emergency use;

(b) all work to be performed on board the ship; the nature, amount and disposition of cargo loaded or remaining, and any residue on board after unloading the ship;

(c) the level of water in bilges and ballast tanks;

(d) the signals or lights being exhibited or sounded;

(e) the number of crew members required to be on board and the presence of any other persons on board;

(f) the state of fire-fighting appliances;

(g) any special port regulations;

(h) the master's standing and special orders;

(i) the lines of communication available between the ship and shore personnel, including port authorities, in the event of an emergency arising or assistance being required;

(j) any other circumstances of importance to the safety of the ship, its crew, cargo or protection of the environment from pollution; and

(k) the procedures for notifying the appropriate authority of any environmental pollution resulting from ship activities.

99. Relieving officers, before assuming charge of the deck watch, shall verify that —

(a) the securing of moorings and anchor chain is adequate;

(b) the appropriate signals or lights are properly exhibited or sounded;

(c) safety measures and fire protection regulations are being maintained;

(d) they are aware of the nature of any hazardous or dangerous cargo being loaded or discharged and the appropriate action to be taken in the event of any spillage or fire;

(e) no external conditions or circumstances imperil the ship and that it does not imperil others.

PART 4 - 2

TAKING OVER ENGINEERING WATCH

100. Prior to taking over the engineering watch, the relieving officer shall be informed by the officer in charge of the engineering watch as to —

(a) the standing orders of the day, any special orders relating to the ship operations, maintenance functions, repairs to the ship's machinery or control equipment;

(b) the nature of all work being performed on machinery and systems on board ship, personnel involved and potential hazards;

(c) the level and condition, where applicable, of water or residue in bilges, ballast tanks, slop tanks, sewage tanks, reserve tanks and special requirements for the use or disposal of the contents thereof;

(d) any special requirements relating to sanitary system disposals;

(e) the condition and state of readiness of portable fire-extinguishing equipment and fixed fire-extinguishing installations and fire-detection systems;

(f) authorised repair personnel on board engaged in engineering activities, their work locations and repair functions and other authorised persons on board and the required crew;

(g) any port regulations pertaining to ship effluents, fire-fighting requirements and ship readiness, particularly during potential bad weather conditions;

(h) the lines of communication available between the ship and shore personnel including port authorities, in the event of an emergency arising or assistance being required;

(i) any other circumstance of importance to the safety of the ship, its crew, cargo or the protection of the environment from pollution; and

(j) the procedures for notifying the appropriate authority of environmental pollution resulting from engineering activities.

101. Relieving officers, before assuming charge of the engineering watch, shall satisfy themselves that they are fully informed by the officer being relieved, as outlined in paragraph 100, and —

(a) be familiar with existing and potential sources of power, heat and light and their distribution;

(b) know the availability and condition of ship's fuel, lubricants and all water supplies; and

(c) be ready to prepare the ship and its machinery, as far as is possible, for stand-by or emergency conditions as required.

PART 4 - 3

PERFORMING DECK WATCH

102. The officer in charge of the deck watch shall —

(a) make rounds to inspect the ship at appropriate intervals;

(b) pay particular attention to —

(i) the condition and securing of the gangway, anchor chain and moorings, especially at the turn of the tide and in berths with a large rise and fall, if necessary, taking measures to ensure that they are in normal working condition;

(ii) the draught, underkeel clearance and the general state of the ship, to avoid dangerous listing or trim during cargo handling or ballasting;

(iii) the weather and sea state;

(iv) the observance of all regulations concerning safety and fire protection;

(v) the water level in bilges and tanks;

(vi) all persons on board and their location, especially those in remote or enclosed spaces; and

(vii) the exhibition and sounding, where appropriate, of lights and signals;

(c) in bad weather, or on receiving a storm warning, take the necessary measures to protect the ship, persons on board and cargo;

(d) take every precaution to prevent pollution of the environment by the ship;

(e) in an emergency threatening the safety of the ship, raise the alarm, inform the master, take all possible measures to prevent any damage to the ship, its cargo and persons on board and, if necessary, request assistance from the shore authorities or neighbouring ships;

(f) be aware of the ship's stability condition so that, in the event of fire, the shore fire-fighting authority may be advised of the approximate quantity of water that can be pumped on board without endangering the ship;

- (g) offer assistance to ships or persons in distress;
- (h) take necessary precautions to prevent accidents or damage when propellers are to be turned; and
- (i) enter in the appropriate log-book all important events affecting the ship.

PART 4 - 4

PERFORMING ENGINEERING WATCH

103. Officers in charge of the engineering watch shall pay particular attention to —

- (a) the observance of all orders, special operating procedures and regulations concerning hazardous conditions and their prevention in all areas in their charge;
- (b) the instrumentation and control systems, monitoring of all power supplies, components and systems in operation;
- (c) the techniques, methods and procedures necessary to prevent violation of the pollution regulations of the local authorities; and
- (d) the state of the bilges.

104. Officers in charge of the engineering watch shall —

- (a) in emergencies, raise the alarm when in their opinion the situation so demands, and take all possible measures to prevent damage to the ship, persons on board and cargo;
- (b) be aware of the deck officer's needs relating to the equipment required in the loading or unloading of the cargo and the additional requirements of the ballast and other ship stability control systems;
- (c) make frequent rounds of inspection to determine possible equipment malfunction or failure, and take immediate remedial action to ensure the safety of the ship, of cargo operations, of the port and the environment;
- (d) ensure that the necessary precautions are taken, within their area of responsibility, to prevent accidents or damage to the various electrical, electronic, hydraulic, pneumatic and mechanical systems of the ship;

(e) ensure that all important events affecting the operation, adjustment or repair of the ship's machinery are satisfactorily recorded.

PART 4 - 5

WATCH IN PORT ON SHIPS CARRYING HAZARDOUS CARGO

General.

105. The master of every ship carrying cargo that is hazardous, whether explosive, flammable, toxic, health-threatening or environment-polluting, shall ensure that watchkeeping arrangements are maintained. On ships carrying hazardous cargo in bulk, this shall be achieved by the ready availability on board of a duly qualified officer or officers, and ratings where appropriate, even when the ship is safely moored or safely at anchor in port.

106. On ships carrying hazardous cargo other than in bulk, the master shall take full account of the nature, quantity, packing and stowage of the hazardous cargo and any special conditions on board, afloat and ashore.

FIFTH SCHEDULE

regulation 36

FEES

1. Certificates of competency for deck officers and ratings —

(a) written (part or full) —

(i) master or chief mate.....	\$150 per subject
(ii) officer in charge of a navigational watch.....	\$75 per subject
(iii) master-NCV.....	\$65 per subject
(iv) officer in charge of a navigational watch-NCV...	\$55 per subject
(v) ratings forming part of a navigational watch.....	\$20 per subject

(b) orals —

(i) master or chief mate.....	\$160
(ii) officer in charge of a navigational watch.....	\$80
(iii) master-NCV.....	\$90
(iv) officer in charge of a navigational watch-NCV...	\$70
(v) ratings forming part of a navigational watch.....	\$50

2. Certificates of competency for engineer officers and ratings —

(a) written (part or full) —

(i) chief and second engineers.....	\$150 per subject
(ii) officer in charge of an engineering watch.....	\$65 per subject
(iii) chief and second engineers-NCV.....	\$65 per subject
(iv) officer in charge of an engineering watch-NCV...	\$50 per subject
(v) ratings forming part of an engine room watch.....	\$20 per subject

(b) orals —

(i) chief and second engineers.....	\$160
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FIFTH SCHEDULE – (continued)

(ii) officer in charge of an engineering watch.....	\$80
(iii) chief and second engineers-NCV.....	\$90
(iv) ratings forming part of an engine room watch.....	\$50
3. Application for all classes of certificate of competency (except ratings), Dangerous Cargo or "E" Endorsement, or revalidation of a certificate of competency of any class (except ratings).....	\$20
4. Application for ratings certificate.....	\$5
5. Issue or replacement of a certificate of competency or service of any class.....	\$20
6. Issue or replacement of a certificate of recognition.....	\$20
7. Issue or replacement of a certificate of proficiency in survival craft.....	\$10
8. Application for a safe manning certificate.....	\$50
9. Review of results of examination.....	\$20 per subject

SIXTH SCHEDULE

regulation 37

FORMS AND CERTIFICATES

Medical certificates

M/1	Sight test certificate
M/2	Medical certificate for service at sea

Examination and certification

E/1	Officer in charge of a Navigational watch (on ships of 500 tons or more)
E/1a	Officer in charge of a Navigational watch - NCV (on ships of less than 500 tons)
E/2	Chief mate (on ships of 500 tons or more)
E/2a	Chief mate - NCV (on ships of between 500 and 3,000 tons)
E/3	Master (on ships of 500 tons or more)
E/3a	Master - NCV (on ships of between 500 and 3,000 tons)
E/3b	Master - NCV (on ships of less than 500 tons)
E/4	Officer in charge of an Engineering watch (on ships of 750 kW propulsion power or more)
E/5	Second engineer (on ships of 3,000 kW propulsion power or more)
E/5a	Second engineer-NCV (on ships of between 750 and 3,000 kW propulsion power)
E/6	Chief engineer (on ships of 3,000 kW propulsion power or more)
E/6a	Chief engineer-NCV (on ships of between 750 and 3,000 kW propulsion power)
E/7	Endorsement attesting the recognition of a certificate
E/7a	Certificate of receipt of application
E/8	Ratings forming part of a Navigational watch
E/9	Ratings forming part of an engine room watch
E/10	Fire prevention and fire-fighting – Basic course

SIXTH SCHEDULE – (continued)

E/11	Elementary first aid
E/12	Certificate of completion in GMDSS radio communications (GOC)
E/13	Specialised tanker training (Liquefied gas)
E/14	Specialised tanker training programme (Oil)
E/15	Personal safety and social responsibilities
E/16	Certificate of proficiency in medical first aid aboard ship
E/17	Personal survival techniques
E/18	Navigation, radar and ARPA simulator training (Operational level)
E/19	Certificate of proficiency in survival craft and rescue boats (other than fast rescue boats)
E/20	Training in advanced fire-fighting

General

G/1	Safe manning certificate
G/2	Testimonial for seagoing service - Deck
G/3	Testimonial for seagoing service - Engine



GOVERNMENT OF BRUNEI DARUSSALAM

SIGHT TEST CERTIFICATE

Serial No.

Seafarer's
Full Name

Identity Card
details

Nationality

Identity Card No.

Rank

This is to certify that the results of the Sight Test is as follows:

	Aids to vision	Form	Colour	Results
Standard	With/Without			
New Entry	Without			

Doctor's notes:

Medical examination done for

Pre-Sea

Periodic

Colour Vision

Examined

Not Examined

Look-out Duty

Fit

Unfit

He has been found fit for sea service as

Rank or Rating

Official stamp

Signature of Medical Examiner

Name of Medical Examiner

Name of Clinic/Hospital

Date of Examination

This certificate is valid until/...../.....

Form M/1



GOVERNMENT OF BRUNEI DARUSSALAM

MEDICAL CERTIFICATE FOR SERVICE AT SEA

Serial No. _____

Seafarer's Full Name _____

Seaman's Book No./Identity Card No. _____

Position/Joining ship _____ Rank or Rating _____ Name of ship _____

On the basis of the above Seafarer's personal declaration, my clinical examination and the diagnostic tests results recorded in this form, I declare him medically:

	FIT FOR DUTY	UNFIT	REMARKS (if Unfit)
DECK			Temporary Permanently Should be re-examined Days/weeks/months Referrals (if any) (Recommended tests, consultations, rehabilitation etc.)
ENGINE			
CATERING			
OTHER			

If FIT for duty, **RESTRICTIONS**, if any

Fit for LOOK-OUT duty Unit for LOOK-OUT duty

Visual Aid required? Yes No

Any other Restrictions
(Trading areas, type of ship, specific position etc.)

Additional Remarks, if any: (more space on back of certificate)

Place of Examination _____ Date of Examination _____

Signature of Medical Examiner

Name of Medical Examiner

Officer Stamp

This Medical Certificate is valid until/...../.....

Additional Details :

Form M/2



Government of Brunei Darussalam

Certificate of Competency

Officer in charge of a Navigational watch
(on ships of 500 gross tonnage or more)

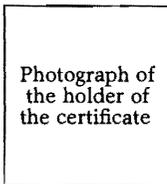
**Certificate issued under the provisions of
THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION
AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED IN 1995**

The Government of Brunei Darussalam certifies that has been found duly qualified in accordance with the provisions of Regulation II/1 of the above Convention, as amended, and has been found competent to perform the following functions, at the levels specified, subject to any limitations indicated until or until the date of expiry of any extension of the validity of the certificate as may be shown overleaf:

FUNCTION	LEVEL	LIMITATIONS APPLYING (if any)

The lawful holder of this certificate may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration.

CAPACITY	LIMITATIONS APPLYING (if any)



Certificate No.

Issued on

.....
Signature of Director of Marine

.....
Name of Director of Marine

.....
Signature of holder of the certificate

(Official seal)

.....
Date of Birth of holder of the certificate

In accordance with regulation I/2, paragraph 9 of the Convention,
the original of this certificate must be kept available while serving on a ship.

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official



Government of Brunei Darussalam

Certificate of Competency

Officer in charge of a Navigational watch - NCV

(on ships of less than 500 gross tonnage, operating in Near-Coastal Voyages)

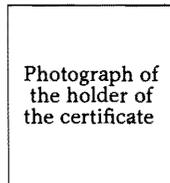
**Certificate issued under the provisions of
THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION
AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED IN 1995**

The Government of Brunei Darussalam certifies that has been found duly qualified in accordance with the provisions of Regulation II/3 of the above Convention, as amended, and has been found competent to perform the following functions, at the levels specified, subject to any limitations indicated until or until the date of expiry of any extension of the validity of the certificate as may be shown overleaf:

FUNCTION	LEVEL	LIMITATIONS APPLYING (if any)

The lawful holder of this certificate may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration.

CAPACITY	LIMITATIONS APPLYING (if any)



Certificate No.

Issued on

.....
Signature of Director of Marine

.....
Name of Director of Marine

.....
Signature of holder of the certificate

(Official seal)

.....
Date of Birth of holder of the certificate

In accordance with regulation I/2, paragraph 9 of the Convention,
the original of this certificate must be kept available while serving on a ship.

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official



Government of Brunei Darussalam

Certificate of Competency

CHIEF MATE

(on ships of 500 gross tonnage or more)

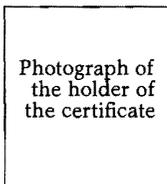
**Certificate issued under the provisions of
THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION
AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED IN 1995**

The Government of Brunei Darussalam certifies that has been found duly qualified in accordance with the provisions of Regulation II/2 of the above Convention, as amended, and has been found competent to perform the following functions, at the levels specified, subject to any limitations indicated until or until the date of expiry of any extension of the validity of the certificate as may be shown overleaf:

FUNCTION	LEVEL	LIMITATIONS APPLYING (if any)

The lawful holder of this certificate may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration.

CAPACITY	LIMITATIONS APPLYING (if any)



Certificate No.

Issued on

.....
Signature of Director of Marine

.....
Name of Director of Marine

.....
Signature of holder of the certificate

(Official seal)

.....
Date of Birth of holder of the certificate

In accordance with regulation I/2, paragraph 9 of the Convention,
the original of this certificate must be kept available while serving on a ship.

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official



Government of Brunei Darussalam

Certificate of Competency

CHIEF MATE - NCV

(on ships of between 500 and 3,000 gross tonnage, operating in Near-Coastal Voyages)

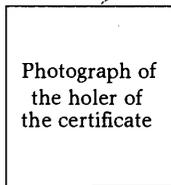
Certificate issued under the provisions of
**THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION
 AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED IN 1995**

The Government of Brunei Darussalam certifies that has been found duly qualified in accordance with the provisions of Regulation II/2 of the above Convention, as amended, and has been found competent to perform the following functions, at the levels specified, subject to any limitations indicated until or until the date of expiry of any extension of the validity of the certificate as may be shown overleaf:

FUNCTION	LEVEL	LIMITATIONS APPLYING (if any)

The lawful holder of this certificate may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration.

CAPACITY	LIMITATIONS APPLYING (if any)



Certificate No.

Issued on

.....
 Signature of Director of Marine

.....
 Name of Director of Marine

.....
 Signature of holder of the certificate

(Official seal)

.....
 Date of Birth of holder of the certificate

In accordance with regulation I/2, paragraph 9 of the Convention,
 the original of this certificate must be kept available while serving on a ship.

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official



Government of Brunei Darussalam

Certificate of Competency

MASTER

(on ships of 500 gross tonnage or more)

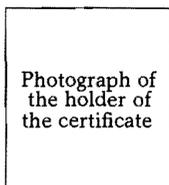
**Certificate issued under the provisions of
THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION
AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED IN 1995**

The Government of Brunei Darussalam certifies that has been found duly qualified in accordance with the provisions of Regulation II/2 of the above Convention, as amended, and has been found competent to perform the following functions, at the levels specified, subject to any limitations indicated until or until the date of expiry of any extension of the validity of the certificate as may be shown overleaf:

FUNCTION	LEVEL	LIMITATIONS APPLYING (if any)

The lawful holder of this certificate may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration.

CAPACITY	LIMITATIONS APPLYING (if any)



Certificate No.

Issued on

.....
Signature of Director of Marine

.....
Name of Director of Marine

.....
Signature of holder of the certificate

(Official seal)

.....
Date of Birth of holder of the certificate

In accordance with regulation I/2, paragraph 9 of the Convention,
the original of this certificate must be kept available while serving on a ship.

Form E/3

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official



Government of Brunei Darussalam

Certificate of Competency

MASTER - NCV

(on ships of between 500 and 3,000 gross tonnage, operating in Near-Coastal Voyages)

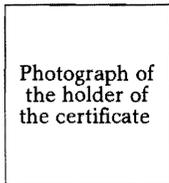
**Certificate issued under the provisions of
THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION
AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED IN 1995**

The Government of Brunei Darussalam certifies that has been found duly qualified in accordance with the provisions of Regulation II/2 of the above Convention, as amended, and has been found competent to perform the following functions, at the levels specified, subject to any limitations indicated until or until the date of expiry of any extension of the validity of the certificate as may be shown overleaf:

FUNCTION	LEVEL	LIMITATIONS APPLYING (if any)

The lawful holder of this certificate may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration.

CAPACITY	LIMITATIONS APPLYING (if any)



Certificate No.

Issued on

.....
Signature of Director of Marine

.....
Name of Director of Marine

.....
Signature of holder of the certificate

(Official seal)

.....
Date of Birth of holder of the certificate

In accordance with regulation I/2, paragraph 9 of the Convention,
the original of this certificate must be kept available while serving on a ship.

The validity of this certificate is hereby extended until .....	.....
(Official seal)	Signature of Duly Authorised Official
Date of Revalidation	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	Signature of Duly Authorised Official
Date of Revalidation	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	Signature of Duly Authorised Official
Date of Revalidation	Name of Duly Authorised Official



Government of Brunei Darussalam

Certificate of Competency

MASTER - NCV

(on ships of less than 500 gross tonnage, operating in Near-Coastal Voyages)

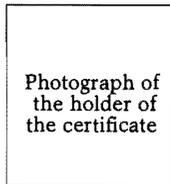
Certificate issued under the provisions of
**THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION
 AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED IN 1995**

The Government of Brunei Darussalam certifies that has been found duly qualified in accordance with the provisions of Regulation II/3 of the above Convention, as amended, and has been found competent to perform the following functions, at the levels specified, subject to any limitations indicated until or until the date of expiry of any extension of the validity of the certificate as may be shown overleaf:

FUNCTION	LEVEL	LIMITATIONS APPLYING (if any)

The lawful holder of this certificate may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration.

CAPACITY	LIMITATIONS APPLYING (if any)



Certificate No.

Issued on

Signature of Director of Marine

Name of Director of Marine

Signature of holder of the certificate

(Official seal)

Date of Birth of holder of the certificate

In accordance with regulation I/2, paragraph 9 of the Convention,
 the original of this certificate must be kept available while serving on a ship.

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official



Government of Brunei Darussalam

Certificate of Competency

Officer in charge of an Engineering watch
(on ships of 750 kW propulsion power or more)

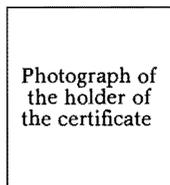
Certificate issued under the provisions of
THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION
AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED IN 1995

The Government of Brunei Darussalam certifies that has been found duly qualified in accordance with the provisions of Regulation III/1 of the above Convention, as amended, and has been found competent to perform the following functions, at the levels specified, subject to any limitations indicated until or until the date of expiry of any extension of the validity of the certificate as may be shown overleaf:

FUNCTION	LEVEL	LIMITATIONS APPLYING (if any)

The lawful holder of this certificate may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration.

CAPACITY	LIMITATIONS APPLYING (if any)



Certificate No.

Issued on

.....
Signature of Director of Marine

.....
Name of Director of Marine

.....
Signature of holder of the certificate

(Official seal)

.....
Date of Birth of holder of the certificate

In accordance with regulation I/2, paragraph 9 of the Convention,
the original of this certificate must be kept available while serving on a ship.

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official



Government of Brunei Darussalam

Certificate of Competency

SECOND ENGINEER

(on ships of 3,000 kW propulsion power or more)

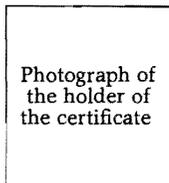
**Certificate issued under the provisions of
THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION
AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED IN 1995**

The Government of Brunei Darussalam certifies that has been found duly qualified in accordance with the provisions of Regulation III/2 of the above Convention, as amended, and has been found competent to perform the following functions, at the levels specified, subject to any limitations indicated until or until the date of expiry of any extension of the validity of the certificate as may be shown overleaf:

FUNCTION	LEVEL	LIMITATIONS APPLYING (if any)

The lawful holder of this certificate may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration.

CAPACITY	LIMITATIONS APPLYING (if any)



Certificate No.

Issued on

.....
Signature of Director of Marine

.....
Name of Director of Marine

.....
Signature of holder of the certificate

(Official seal)

.....
Date of Birth of holder of the certificate

In accordance with regulation I/2, paragraph 9 of the Convention, the original of this certificate must be kept available while serving on a ship.

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official



Government of Brunei Darussalam

Certificate of Competency

SECOND ENGINEER - NCV

(on ships of between 750 and 3,000 kW propulsion power, operating in Near-Coastal Voyages)

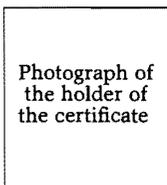
**Certificate issued under the provisions of
THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION
AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED IN 1995**

The Government of Brunei Darussalam certifies that has been found duly qualified in accordance with the provisions of Regulation III/3 of the above Convention, as amended, and has been found competent to perform the following functions, at the levels specified, subject to any limitations indicated until or until the date of expiry of any extension of the validity of the certificate as may be shown overleaf:

FUNCTION	LEVEL	LIMITATIONS APPLYING (if any)

The lawful holder of this certificate may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration.

CAPACITY	LIMITATIONS APPLYING (if any)



Certificate No.

Issued on

Signature of Director of Marine

Name of Director of Marine

Signature of holder of the certificate

(Official seal)

Date of Birth of holder of the certificate

In accordance with regulation 1/2, paragraph 9 of the Convention,
the original of this certificate must be kept available while serving on a ship.

Form E/5a

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official



Government of Brunei Darussalam

Certificate of Competency

CHIEF ENGINEER

(on ships of 3,000 kW propulsion power or more)

**Certificate issued under the provisions of
THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION
AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED IN 1995**

The Government of Brunei Darussalam certifies that has been found duly qualified in accordance with the provisions of Regulation III/2 of the above Convention, as amended, and has been found competent to perform the following functions, at the levels specified, subject to any limitations indicated until or until the date of expiry of any extension of the validity of the certificate as may be shown overleaf:

FUNCTION	LEVEL	LIMITATIONS APPLYING (if any)

The lawful holder of this certificate may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration.

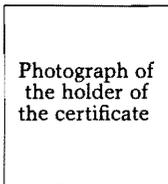
CAPACITY	LIMITATIONS APPLYING (if any)

Certificate No.

Issued on

Signature of Director of Marine

Name of Director of Marine



Signature of holder of the certificate

(Official seal)

Date of Birth of holder of the certificate

In accordance with regulation I/2, paragraph 9 of the Convention, the original of this certificate must be kept available while serving on a ship.

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official



Government of Brunei Darussalam

Certificate of Competency

CHIEF ENGINEER - NCV

(on ships of between 750 and 3,000 kW propulsion power, operating in Near-Coastal Voyages)

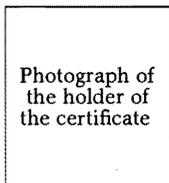
**Certificate issued under the provisions of
THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION
AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED IN 1995**

The Government of Brunei Darussalam certifies that has been found duly qualified in accordance with the provisions of Regulation III/3 of the above Convention, as amended, and has been found competent to perform the following functions, at the levels specified, subject to any limitations indicated until or until the date of expiry of any extension of the validity of the certificate as may be shown overleaf:

FUNCTION	LEVEL	LIMITATIONS APPLYING (if any)

The lawful holder of this certificate may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration.

CAPACITY	LIMITATIONS APPLYING (if any)



Certificate No.

Issued on

Signature of Director of Marine

Name of Director of Marine

Signature of holder of the certificate

(Official seal)

Date of Birth of holder of the certificate

In accordance with regulation I/2, paragraph 9 of the Convention, the original of this certificate must be kept available while serving on a ship.

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official



Government of Brunei Darussalam

**ENDORSEMENT ATTESTING THE RECOGNITION OF A CERTIFICATE
UNDER THE PROVISIONS OF
THE MERCHANT SHIPPING ORDER, 2002
and
THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING,
CERTIFICATION AND WATCHKEEPING FOR SEAFARERS, 1978,
as amended in 1995.**

Endorsement No. Issued on

The Government of Brunei Darussalam certifies that Endorsement No issued to by and on behalf of the Government of is duly recognised in accordance with the provisions of Regulation 18 of the Merchant Shipping (Standards of Training, Certification and Watchkeeping) Regulations, 2002 and Regulation I/10 of the STCW Convention, as amended, and the lawful holder is authorised to perform the following functions, at the levels specified, 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:

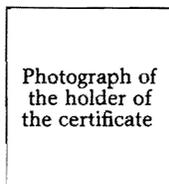
FUNCTION	LEVEL	LIMITATIONS APPLYING (if any)

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



.....
Signature of Director of Marine

.....
Name of Director of Marine

.....
Signature of holder of the certificate

(Official seal)

.....
Date of Birth of holder of the certificate

BRUNEI DARUSSALAM GOVERNMENT GAZETTE

Additional Remarks:

In accordance with regulation 1/2, paragraph 9 of the Convention, the original of this certificate must be kept available while serving on a ship.

Form E/7

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official



GOVERNMENT OF BRUNEI DARUSSALAM

CERTIFICATE OF RECEIPT OF APPLICATION
(for endorsement attesting the recognition of a certificate of competency)

(In accordance with Regulation 18 of the Merchant Shipping (Standards of Training, Certification and Watchkeeping) Regulations, 2002 and Regulation I/10 of the STCW Convention)

The Marine Department, Brunei Darussalam is in receipt of your application for endorsement attesting the recognition of your certificate of competency.

This **CERTIFICATE OF RECEIPT OF APPLICATION** is issued to:

Full Name
Nationality
CoC Ranking
Issuing Authority
Name of joining ship
Type of ship
Date of Issue Date of Expiry

IMPORTANT NOTE:

This Certificate of Receipt of Application for endorsement attesting the recognition of your certificate of competency:

1. is valid for 90 days from the date of issue;
2. is valid only for the type of ship the applicant is joining;
3. is invalid if at any time it is found that any information provided by the applicant is fraudulent.

(Official Company Stamp)

.....
Date for Director of Marine
.....
Muara
Place Name of Authorised Signatory



Government of Brunei Darussalam

Certificate

Rating forming part of a Navigational watch
(on ships of 500 gross tonnage or more)

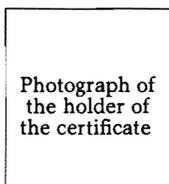
**Certificate issued under the provisions of
THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION
AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED IN 1995**

The Government of Brunei Darussalam certifies that has been found duly qualified in accordance with the provisions of Regulation II/4 of the above Convention, as amended, and has been found competent to perform the following functions, at the levels specified, subject to any limitations indicated until or until the date of expiry of any extension of the validity of the certificate as may be shown overleaf:

FUNCTION	LEVEL	LIMITATIONS APPLYING (if any)

The lawful holder of this certificate may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration.

CAPACITY	LIMITATIONS APPLYING (if any)



Photograph of
the holder of
the certificate

Certificate No.

Issued on

.....
Signature of Director of Marine

.....
Name of Director of Marine

.....
Signature of holder of the certificate

(Official seal)

.....
Date of Birth of holder of the certificate

In accordance with regulation I/2, paragraph 9 of the Convention,
the original of this certificate must be kept available while serving on a ship.

Form E/8

BRUNEI DARUSSALAM GOVERNMENT GAZETTE

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official



Government of Brunei Darussalam

Certificate

Rating forming part of an Engine room watch
(on ships of 500 gross tonnage or more)

**Certificate issued under the provisions of
THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION
AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED IN 1995**

The Government of Brunei Darussalam certifies that has been found duly qualified in accordance with the provisions of Regulation III/4 of the above Convention, as amended, and has been found competent to perform the following functions, at the levels specified, subject to any limitations indicated until or until the date of expiry of any extension of the validity of the certificate as may be shown overleaf:

FUNCTION	LEVEL	LIMITATIONS APPLYING (if any)

The lawful holder of this certificate may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Administration.

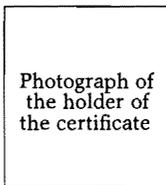
CAPACITY	LIMITATIONS APPLYING (if any)

Certificate No.

Issued on

.....
Signature of Director of Marine

.....
Name of Director of Marine



Photograph of
the holder of
the certificate

.....
Signature of holder of the certificate

(Official seal)

.....
Date of Birth of holder of the certificate

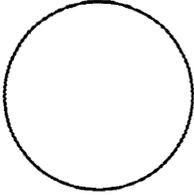
In accordance with regulation I/2, paragraph 9 of the Convention,
the original of this certificate must be kept available while serving on a ship.

BRUNEI DARUSSALAM GOVERNMENT GAZETTE

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official

The validity of this certificate is hereby extended until .....	.....
(Official seal)	.....
	Signature of Duly Authorised Official
Date of Revalidation .....	.....
	Name of Duly Authorised Official



(Issuing Authority)

(Address and contact details)

FIRE PREVENTION AND FIRE-FIGHTING – BASIC COURSE

This is to certify that

Date of Birth:

Discharge Book No./Passport No./Identity Card No.:

has successfully completed a programme of training approved by the Marine Department, Brunei Darussalam, meeting the requirements laid down in:

**regulation VI/1 of the STCW Convention and
paragraph 2.1.2 of section A-VI/1 of the STCW Code**

and has also meet the additional criteria specified in the STCW Convention, applicable to the issue of the certificate.

This certificate is issued under the authority of the Marine Department, Ministry of Communications, Brunei Darussalam.

.....
Signature of Course
Co-ordinator

.....
Signature of Principal or
authorised representative

(official stamp)

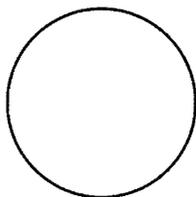
.....
Signature of Holder

Certificate No.:

Date of Issue:

Inquiries concerning this certificate should be addressed to the Issuing Authority.

Form E/10



(Issuing Authority)

(Address and contact details)

ELEMENTARY FIRST AID

This is to certify that

Date of Birth:

Discharge Book No./Passport No./Identity Card No.:

has successfully completed a programme of training approved by the Marine Department, Brunei Darussalam, meeting the requirements laid down in:

**regulation VI/1 of the STCW Convention and
paragraph 2.1.3 of section A-VI/1 of the STCW Code**

and has also meet the additional criteria specified in the STCW Convention, applicable to the issue of the certificate.

This certificate is issued under the authority of the Marine Department, Ministry of Communications, Brunei Darussalam.

.....
Signature of Course
Co-ordinator

.....
Signature of Principal or
authorised representative

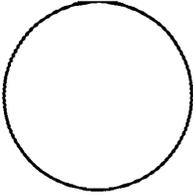
(official stamp)

.....
Signature of Holder

Certificate No.:

Date of Issue:

Inquiries concerning this certificate should be addressed to the Issuing Authority.



(Issuing Authority)

(Address and contact details)

**CERTIFICATE OF COMPLETION IN
GMDSS RADIO COMMUNICATIONS (GOC)**

This is to certify that

Date of Birth:

Discharge Book No./Passport No./Identity Card No.:

has successfully completed a programme of training approved by the Marine Department, Brunei Darussalam, meeting the requirements laid down in:

**regulation IV/2 of the STCW Convention and
section A-IV/2 of the STCW Code**

and has also meet the additional criteria specified in the STCW Convention, applicable to the issue of the certificate.

This certificate is issued under the authority of the Marine Department, Ministry of Communications, Brunei Darussalam.

.....
Signature of Course
Co-ordinator

.....
Signature of Principal or
authorised representative

(official stamp)

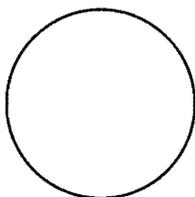
.....
Signature of Holder

Certificate No.:

Date of Issue:

Inquiries concerning this certificate should be addressed to the Issuing Authority.

Form E/12



(Issuing Authority)

(Address and contact details)

SPECIALISED TANKER TRAINING (LIQUEFIED GAS)

This is to certify that

Date of Birth:

Discharge Book No./Passport No./Identity Card No.:

has successfully completed a programme of training approved by the Marine Department, Brunei Darussalam, meeting the requirements laid down in:

paragraph 2.2 of regulation V/1 of the STCW Convention and paragraphs 22 to 34 of section A-V/1 of the STCW Code

and has also meet the additional criteria specified in the STCW Convention, applicable to the issue of the certificate.

This certificate is issued under the authority of the Marine Department, Ministry of Communications, Brunei Darussalam.

.....
Signature of Course
Co-ordinator

.....
Signature of Principal or
authorised representative

(official stamp)

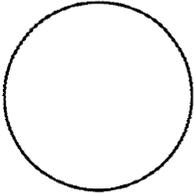
.....
Signature of Holder

Certificate No.:

Date of Issue:

Inquiries concerning this certificate should be addressed to the Issuing Authority.

Form E/13



(Issuing Authority)

(Address and contact details)

SPECIALISED TANKER TRAINING PROGRAMME (OIL)

This is to certify that

Date of Birth:

Discharge Book No./Passport No./Identity Card No.:

has successfully completed a programme of training approved by the Marine Department, Brunei Darussalam, meeting the requirements laid down in:

paragraph 2.2 of regulation V/1 of the STCW Convention and paragraphs 8 to 14 of section A-V/1 of the STCW Code

and has also meet the additional criteria specified in the STCW Convention, applicable to the issue of the certificate.

This certificate is issued under the authority of the Marine Department, Ministry of Communications, Brunei Darussalam.

.....
Signature of Course
Co-ordinator

.....
Signature of Principal or
authorised representative

(official stamp)

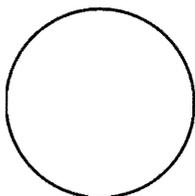
.....
Signature of Holder

Certificate No.:

Date of Issue:

Inquiries concerning this certificate should be addressed to the Issuing Authority.

Form E/14



(Issuing Authority)

(Address and contact details)

PERSONAL SAFETY AND SOCIAL RESPONSIBILITIES

This is to certify that

Date of Birth:

Discharge Book No./Passport No./Identity Card No.:

has successfully completed a programme of training approved by the Marine Department, Brunei Darussalam, meeting the requirements laid down in:

**regulation VI/1 of the STCW Convention and
paragraph 2.1.4 of section A-VI/1 of the STCW Code**

and has also meet the additional criteria specified in the STCW Convention, applicable to the issue of the certificate.

This certificate is issued under the authority of the Marine Department, Ministry of Communications, Brunei Darussalam.

.....
Signature of Course
Co-ordinator

.....
Signature of Principal or
authorised representative

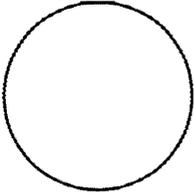
(official stamp)

.....
Signature of Holder

Certificate No.:

Date of Issue:

Inquiries concerning this certificate should be addressed to the Issuing Authority.



(Issuing Authority)

(Address and contact details)

**CERTIFICATE OF PROFICIENCY IN MEDICAL FIRST AID
ABOARD SHIP**

This is to certify that

Date of Birth:

Discharge Book No./Passport No./Identity Card No.:

has successfully completed a programme of training approved by the Marine Department, Brunei Darussalam, meeting the requirements laid down in:

**paragraph 1 of regulation VI/4 of the STCW Convention and
section A-VI/4-1 of the STCW Code**

and has also meet the additional criteria specified in the STCW Convention, applicable to the issue of the certificate.

This certificate is issued under the authority of the Marine Department, Ministry of Communications, Brunei Darussalam.

.....
Signature of Course
Co-ordinator

.....
Signature of Principal or
authorised representative

(official stamp)

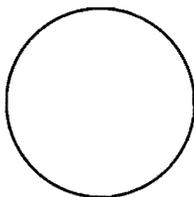
.....
Signature of Holder

Certificate No.:

Date of Issue:

Inquiries concerning this certificate should be addressed to the Issuing Authority.

Form E/16



(Issuing Authority)

(Address and contact details)

PERSONAL SURVIVAL TECHNIQUES

This is to certify that

Date of Birth:

Discharge Book No./Passport No./Identity Card No.:

has successfully completed a programme of training approved by the Marine Department, Brunei Darussalam, meeting the requirements laid down in:

**regulation VI/1 of the STCW Convention and
paragraph 2.1.1 of section A-VI/1 of the STCW Code**

and has also meet the additional criteria specified in the STCW Convention, applicable to the issue of the certificate.

This certificate is issued under the authority of the Marine Department, Ministry of Communications, Brunei Darussalam.

.....
Signature of Course
Co-ordinator

.....
Signature of Principal or
authorised representative

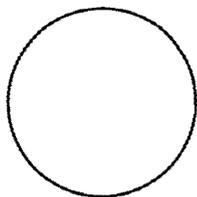
(official stamp)

.....
Signature of Holder

Certificate No.:

Date of Issue:

Inquiries concerning this certificate should be addressed to the Issuing Authority.



(Issuing Authority)

(Address and contact details)

**NAVIGATION, RADAR AND ARPA SIMULATOR TRAINING
(OPERATIONAL LEVEL)**

This is to certify that

Date of Birth:

Discharge Book No./Passport No./Identity Card No.:

has successfully completed radar and ARPA simulator training at operational level approved by the Marine Department, Brunei Darussalam, including training in effective bridge teamwork and watchkeeping procedures, the use of ECDIS and electronic systems of position fixing and navigation, meeting the requirements laid down in:

**regulation II/1
of the STCW
Convention**

**Table A-II/1 of the
STCW Code**

Maintain a safe
navigational watch. Use of
radar and ARPA to
maintain safety of
navigation.

This certificate is issued under the authority of the Marine Department, Ministry of Communications, Brunei Darussalam.

.....
Signature of Course
Co-ordinator

.....
Signature of Principal or
authorised representative

(official stamp)

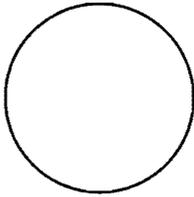
.....
Signature of Holder

Certificate No.:

Date of Issue:

Inquiries concerning this certificate should be addressed to the Issuing Authority.

Form E/18



(Issuing Authority)

(Address and contact details)

**CERTIFICATE OF PROFICIENCY IN SURVIVAL CRAFT
AND RESCUE BOATS (other than fast rescue boats)**

This is to certify that

Date of Birth:

Discharge Book No./Passport No./Identity Card No.:

has successfully completed a programme of training approved by the Marine Department, Brunei Darussalam, meeting the requirements laid down in:

**paragraph 1 of regulation VI/2 of the STCW Convention and
section A-VI/2-1 of the STCW Code**

and has also meet the additional criteria specified in the STCW Convention, applicable to the issue of the certificate.

This certificate is issued under the authority of the Marine Department, Ministry of Communications, Brunei Darussalam.

.....
Signature of Course
Co-ordinator

.....
Signature of Principal or
authorised representative

(official stamp)

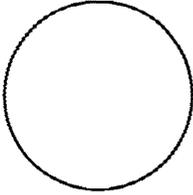
.....
Signature of Holder

Certificate No.:

Date of Issue:

Inquiries concerning this certificate should be addressed to the Issuing Authority.

Form E/19



(Issuing Authority)

(Address and contact details)

TRAINING IN ADVANCED FIRE-FIGHTING

This is to certify that

Date of Birth:

Discharge Book No./Passport No./Identity Card No.:

has successfully completed a programme of training approved by the Marine Department, Brunei Darussalam, meeting the requirements laid down in:

**regulation VI/3 of the STCW Convention and
section A-VI/3 of the STCW Code**

and has also meet the additional criteria specified in the STCW Convention, applicable to the issue of the certificate.

This certificate is issued under the authority of the Marine Department, Ministry of Communications, Brunei Darussalam.

.....
Signature of Course
Co-ordinator

.....
Signature of Principal or
authorised representative

(official stamp)

.....
Signature of Holder

Certificate No.:

Date of Issue:

Inquiries concerning this certificate should be addressed to the Issuing Authority.

Form E/20



GOVERNMENT OF BRUNEI DARUSSALAM

SAFE MANNING CERTIFICATE

Certificate issued under the provisions of Chapter V of
THE INTERNATIONAL CONVENTION FOR SAFETY OF LIFE AT SEA,
1974, as amended

Under the authority of the Government of Brunei Darussalam

By

Name of ship

Port of Registry

Type of ship

Distinctive number or letters

IMO number

Gross tonnage

Main propulsion power (kW)

Yes

Periodically unattended machinery
space

No

Radio telegraphy*

Radio equipment

GMDSS**

Unlimited

Trading area***

Near-coastal

Short voyages (as defined in SOLAS
111/3.16)

The ship named in this document is considered to be safely manned, when it proceeds to sea, if it carries not less than the number and grades / capacities of personnel specified in the table below:

DECK	No.	STCW Certificate required
Master	<input type="text"/>	
Chief Mate	<input type="text"/>	
Officer in charge of a navigational watch	<input type="text"/>	
Deck Rating	<input type="text"/>	
Radio operator	<input type="text"/>	
ENGINE		
Chief Engineer	<input type="text"/>	
Second Engineer	<input type="text"/>	
Officer in charge of an engineering watch	<input type="text"/>	
Engine Rating	<input type="text"/>	

Date of Issue

Place of Issue

Date of Expiry (if any)

(Seal of the Administration)

.....
Signature for and behalf of the Administration

- * If ship fitted with Radio Telegraphy, then 1 Radio Operator to be carried.
- ** If ship GMDSS equipped, at least 2 Deck officers should be qualified GMDSS Operators.
- *** Where a trading area other than unlimited is indicated, a clear description or map of the trading area is to be included in the document.

Form G/1

GOVERNMENT OF BRUNEI DARUSSALAM



TESTIMONIAL FOR SEAGOING SERVICE - DECK

Name of Shipping Company:	
Address and contact details	Phone
	Fax
	E-mail address

PART 1 - WATCHKEEPING SERVICE - DECK

1. THIS IS TO CERTIFY THAT:

Full Name

Date of Birth

Identity Card No. Seaman's Book No.

Name of Ship Official No.

Type of Ship GRT

Area of Operation Unlimited/Near-Coastal Voyages/Others (please specify)

From date: To date:

Served under my supervision as 1st./2nd./3rd./4th. Watchkeeping Deck Officer.

During this period the abovenamed officer was in full charge of a bridge watch for not less than _____ hours out of every 24 hours whilst at sea.

2. IN ADDITION, THE ABOVENAMED OFFICER'S SERVICE IS AS FOLLOWS:

Period of Service		Rank of Seafarer and seniority on watch	Nature of duties (use numbers in Description of Duties on page 3)
From	To		

3. Served on board the ship whilst it was in the final stages of construction. From:

To:

Was granted / not granted leave of absence: From:

(if granted, give dates) To:

PART 2 – TESTIMONIAL

My report on the service of the officer during the period stated is as follows:

Conduct:

.....
Experience / Ability:

.....
Behaviour / Sobriety:

.....
Additional remarks (if any):

.....

Signature of Master

Signature of Chief Engineer

.....

Name of Master

Name of Chief Engineer

.....

Ship / Company Official Stamp

.....

Date :

.....

Port :

.....

- Delete, as applicable

DESCRIPTION OF DUTIES

A On regular watch on the bridge as —

- (i) Deck officer (Senior) in full charge;
- (ii) Deck officer assisting the Senior in full charge;
- (iii) Additional Deck Officer;
- (iv) Deck rating assisting the Senior in full charge; or
- (v) Deck rating forming part of the watch.

B On regular watch* on deck as —

- (i) Deck officer (Senior) in full charge;
- (ii) Deck officer assisting the Senior in full charge;
- (iii) Additional Deck Officer;
- (iv) Deck rating assisting the Senior in full charge; or
- (v) Deck rating forming part of the watch.

- Notes:**
1. This testimonial is to be issued by the master to all the deck officers and deck ratings serving on board under his supervision on his leaving the ship or whenever any one of them leaves the ship.
 2. All spaces of the testimonial must be properly filled in otherwise the testimonial may not be accepted.
 3. The master must initial any corrected entries.

* On regular watch means 8 hours in every 24 hours.

GOVERNMENT OF BRUNEI DARUSSALAM



TESTIMONIAL FOR SEAGOING SERVICE - ENGINE

Name of Shipping Company:	
Address and contact details	Phone Fax E-mail address

PART 1 - WATCHKEEPING SERVICE - ENGINE

1. THIS IS TO CERTIFY THAT:

Full Name
 Date of Birth
 Identity Card No. Seaman's Book No.
 Name of Ship Official No.
 Type of Ship Propulsion power kW
 Area of Operation Unlimited/Near-Coastal Voyages/Others (please specify)
 From date: To date:
 Served under my supervision as 1st./2nd./3rd./4th. Watchkeeping Engineer Officer.

During this period the abovenamed officer was in full charge of an engineering watch for not less than _____ hours out of every 24 hours whilst at sea.

2. IN ADDITION, THE ABOVENAMED OFFICER'S SERVICE IS AS FOLLOWS:

Period of Service		Rank of Seafarer and seniority on watch	Nature of duties (use numbers in Description of Duties on page 3)
From	To		

3. During this period stated above, the ship was continually NOT underway for _____ days. (fill in, only if over 60 days).

Was granted / not granted leave of absence:
(if granted, give dates)

From:

To:

PART 2 – TESTIMONIAL

My report on the service of the officer during the period stated is as follows:

Conduct:

.....
Experience / Ability:

.....
Behaviour / Sobriety:

.....
Additional remarks (if any):

.....

Signature of Master

Signature of Chief Engineer

.....

Name of Master

Name of Chief Engineer

.....

Ship / Company Official Stamp

.....

Date:

.....

Port:

.....

- Delete, as applicable

DESCRIPTION OF DUTIES

- I On maintenance works either by day or regular watch —
- (a) within main engine and boiler spaces; or
 - (b) outside main engine and boiler spaces.
- II On regular watch* on —
- (a) auxiliary machinery essential to the running of the main engines; or
 - (b) refrigerating or other machinery not essential to the running of the main engines.
- III On regular watch on main engines as —
- (a) Engineer officer (Senior) in full charge;
 - (b) Engineer officer assisting the Senior in full charge;
 - (c) Assistant Engineer;
 - (d) Engine rating assisting the Senior in full charge; or
 - (e) Engine rating forming part of the watch.
- IV On regular watch* on main boilers as —
- (a) Engineer officer (Senior) in full charge;
 - (b) Engineer officer assisting the Senior in full charge;
 - (c) Assistant Engineer;
 - (d) Engine rating assisting the Senior in full charge; or
 - (e) Engine rating forming part of the watch.
- V On regular watch* on main engines and boilers simultaneously as —
- (a) Engineer officer (Senior) in full charge;
 - (b) Engineer officer assisting the Senior in full charge;
 - (c) Assistant Engineer;
 - (d) Engine rating assisting the Senior in full charge; or
 - (e) Engine rating forming part of the watch.
- VI On duties other than on regular watch* such as on ships with unattended machinery spaces. A brief description of the duration and frequency of the watches should be given. Periods of maintenance work either by day or regular watch should be stated.

- Notes :**
1. This testimonial is to be issued by the chief engineer to all the engineer officers and engine ratings serving on board under his supervision on his leaving the ship or whenever any one of them leaves the ship.
 2. All spaces of the testimonial must be properly filled in otherwise the testimonial may not be accepted.
 3. The chief engineer must initial any corrected entries.

* On regular watch means 8 hours in every 24 hours.

Form G/3

BRUNEI DARUSSALAM GOVERNMENT GAZETTE

Made this 21st. day of Jamadilawal, 1423 Hijriah corresponding to the 1st. day of August, 2002.

**PEHIN ORANG KAYA SETIA PAHLAWAN DATO SERI SETIA
HAJI AWANG ZAKARIA BIN DATU MAHAWANGSA HAJI SULAIMAN**
Minister of Communications,
Brunei Darussalam.