

*Shipping (Manning and Certification) Regulations***SAINT LUCIA**

STATUTORY INSTRUMENT, No. 93

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[15th June, 2020]

In exercise of the power conferred under section 111 of the Shipping Act, Cap. 13.27, the Minister responsible for shipping, makes these Regulations:

PRELIMINARY**Citation**

1. These Regulations may be cited as the Shipping (Manning and Certification) Regulations, 2020.

Interpretation

2. In these Regulations —

“Act” means the Shipping Act, Cap.13.27;

“assistant engineer officer” means a person under training to become an engineer officer;

“Caribbean Trading Area” has the same meaning assigned to it under the Shipping (Caribbean Cargo Ship Construction and Survey) Regulations;

“certificate” means a certificate issued and endorsed under these Regulations that entitles the lawful holder to serve in the capacity and to perform the functions involved at the level of responsibility specified on a ship of the type, tonnage, power and means of propulsion while engaged on the particular voyage;

“chemical tanker” means a ship constructed or adapted and used for the carriage in bulk of any liquid product listed in any international instrument relating to bulk chemicals;

“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;

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- “chief mate” means the officer next in rank to the master and upon whom the command of the ship falls in the event of the incapacity of the master;
- “company” means the owner of the ship or any other organization or person assuming such responsibility who agrees to take over all the duties and responsibilities imposed on the company by these Regulations;
- “deck officer” means an officer qualified under these Regulations;
- “engineer officer” means an officer qualified under these Regulations;
- “engineering watch” means 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;
- “evaluation criteria” means the entries appearing in column 4 of the tables in Schedule 1 of the specification of the minimum standard of competence that provides the means for an assessor to judge whether or not a candidate can perform the related tasks, duties and responsibilities;
- “fishing vessel” means a ship used for catching fish, whales, seals, walrus or other living resources of the sea;
- “function” means a group of tasks, duties and responsibilities, as specified in these Regulations, necessary for ship operation, safety of life at sea or protection of the marine environment;
- “GT” means gross tonnage as determined in accordance with the Shipping (Tonnage) Regulations;
- “hovercraft” means a sea-going vessel registered in Saint Lucia which was constructed on or after January 1, 1996;
- “IMO” means the International Maritime Organization;
- “independent evaluation” means an assessment by a suitably qualified person, independent of, or external to, the unit or activity being evaluated, to verify that the administrative and operational procedures at all levels are managed,

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organized, undertaken and monitored internally in order to ensure their fitness for the purpose of achieving the stated objectives;

“kW” means kilowatt;

“liquefied gas tanker” means a ship constructed or adapted and used for the carriage, in bulk, of any liquefied gas or other product listed in any international instrument relating to gas carriers;

“management level” means the extent of responsibility associated with —

- (a) serving as master, chief mate, chief engineer officer or second engineer officer on board a seagoing ship; and
- (b) ensuring that all functions within the designated area of responsibility are properly performed;

“master” means the person having command of a ship;

“month” means a calendar month or thirty days made up of periods within a year;

“near-coastal voyage” means a journey —

- (a) of seventy-two hours or less within the unlimited trading area in the course of which a ship is at no time more than one hundred and fifty miles from a safe port of refuge; or
- (b) within the Caribbean Trading Area in the course of which the ship is at no time more than one hundred and fifty miles from a safe port of refuge;

“officer” means a member of the crew, other than the master;

“oil tanker” means a ship constructed and used for the carriage of petroleum and petroleum products in bulk;

“operational level” means the extent of responsibility associated with —

- (a) serving as officer in charge of a navigational watch or engineering watch, as a designated duty engineer for periodically unmanned machinery spaces or as a radio operator on board a seagoing ship; and

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(b) maintaining direct control over the performance of all functions within the designated area of responsibility in accordance with proper procedures and under the direction of a person serving in the management level for that area of responsibility;

“propulsion power” means the total maximum continuous rated output power in kilowatts of all the ship’s main propulsion machinery which appears on the ship’s certificate of registry or other official document;

“radio duties” includes watchkeeping and technical maintenance and repairs conducted in accordance with the Radio Regulations, the Safety Convention and the recommendations of the IMO;

“radio operator” means a person holding a licence or frequency authorization issued under the Radio Regulations;

“Radio Regulations” means the Telecommunications (Licensing and Authorisation) Regulations, Cap.8.11;

“rating” means a member of the ship’s crew other than the master or an officer;

“ro-ro passenger ship” means a passenger ship with ro-ro cargo spaces or special category spaces as defined in the Safety Convention;

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

“seagoing ship” means a ship other than a ship which navigates exclusively in inland waters or in waters within, or closely adjacent to, sheltered waters or areas;

“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 falls in the event of the incapacity of the chief engineer officer;

“standard of competence” means the level of proficiency to be achieved for the proper performance of functions on

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board a ship in accordance with internationally agreed criteria and incorporating specified standards or levels of knowledge, understanding and demonstrated skill;

“support level” means the extent of responsibility associated with performing assigned tasks, duties or responsibilities on board a seagoing ship under the direction of a person serving in the operational level or management level.

Application and non-application

3.—(1) These Regulations apply to seafarers serving on board a seagoing ship.

(2) These Regulations do not apply to seafarers serving on board —

- (a) a warship, naval auxiliary or other ship owned or operated and engaged only on governmental non-commercial non-commercial service;
- (b) a fishing vessel;
- (c) a pleasure yacht not engaged in trade; or
- (d) a wooden ship of primitive build.

**PART I
TRAINING AND ASSESSMENT**

Board of Examiners

4.—(1) The Director shall nominate a pool of suitably qualified persons who will from time to time be appointed to a Board of Examiners.

(2) A person who is appointed to a Board of Examiners shall —

- (a) be the holder of a certificate of competence as master or chief engineer without restriction or the appropriate training in related subjects or disciplines at a tertiary level;
- (b) complete the Model Course for Examiners developed by the IMO; and
- (c) have a period of on-the-job training or exposure to maritime examination methods and practices.

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(3) For each assessment, in each discipline, the Director shall appoint at least three persons to form a Board of Examiners consisting of —

- (a) a president who is a person from the Division; and
- (b) two members who are persons from the pool of suitably qualified persons.

(4) A Board of Examiners must be structured according to the discipline in which the candidates are to be assessed and the Board of Examiners may be appointed for assessments in different classes of certification, but must not be appointed for assessments in different disciplines.

(5) The Division shall —

- (a) maintain a separate data bank of questions and model answers for each class of certification within each discipline;
- (b) provide a selection of questions and model answers to each appointed Board of Examiners for consideration in formulating assessment papers;
- (c) provide a sufficient number of invigilators to support each examination;
- (d) promulgate the timetable detailing the schedule and conduct of examination to ensure that the timetable is communicated to candidates in a timely manner.

Functions of Board of Examiners

5.—(1) The functions of each Board of Examiners are —

- (a) to formulate assessment papers, conduct examinations, and evaluate individual papers;
- (b) prior to, during and after an examination, to ensure that —
 - (i) the required charts, publications, instruments and other material or equipment are serviceable and available in sufficient numbers to adequately support the examination,

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- (ii) the listed candidates for each examination are present and properly accounted for according to the seating and numbering arrangements,
 - (iii) written examinations are conducted as follows —
 - (A) the candidates are briefed on the general rules, requirements and duration of the examination;
 - (B) the examination papers are administered and the examination conducted according to the rules for the examination;
 - (C) the examination is started and completed on time and within the specified duration and that allowance is made for any unforeseen or unavoidable stoppage or disruptions;
 - (D) the examination papers are collected and properly accounted for on completion of the examination;
 - (E) candidates who violate the rules of the examination are disqualified;
 - (F) suspension of an examination where the Board of Examiners is not satisfied with existing facilities, support equipment or material or conditions under which the examination is conducted and subsequently make other arrangements considered appropriate to ensure the proper conduct of the examination;
 - (G) after the examination, ensure that each examination paper is independently evaluated by at least two qualified persons;
 - (H) in assigning final grades, compare and average the grades of the two independent evaluations;
 - (c) upon completion of any of its functions, submit a report to the Division.
- (2) For the purposes of subregulation (1)(b)(iii)(G) —
- (a) the first evaluation must be performed by an instructor, versed in the subject or discipline from a training institution;

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- (b) the second evaluation must be performed by a member of the Board of Examiners;
- (c) evaluations must be compared by the Board of Examiners and final grades assigned to each paper;
- (d) borderline cases are to be reviewed by a member of the Board of Examiners who is not involved in the evaluation of the particular paper.

(3) Without prejudice to subregulation (1)(b)(iii)(H), the Board of Examiners shall in assigning final grades, take into consideration —

- (a) the coursework of a candidate;
- (b) the training record book and testimonials of conduct and character during the period of seagoing training of a candidate;
- (c) any other relevant matter concerning the competence of a candidate.

Training and assessment

6.—(1) The Director shall ensure that all training and assessment of seafarers for certification under these Regulations are —

- (a) structured in accordance with written programmes, including such methods and media of delivery, procedures and course material as are necessary to achieve the specified standard of competence; and
- (b) conducted, monitored, evaluated and supported by persons qualified under regulations 8, 9 and 10.

(2) A person who conducts in-service training or assessment shall only do so on board a ship when such training or assessment will not adversely affect the normal operation of the ship and he or she can dedicate the time and attention to training or assessment.

Training and assessment within an institution

7. A training institution shall —

- (a) provide to the Division, at least one month before the scheduled dates of commencement of assessments, three

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- complete assessment papers and model answers for each class of certification within each discipline to be assessed;
- (b) in the formulation of questions for assessment papers, ensure that all the required publications, charts, instruments and other material or equipment are serviceable and available in sufficient quantities to support the assessment, and such requirements are to be clearly stated along with the associated serviceability and availability;
 - (c) provide instructors who are versed in the particular subject discipline being assessed, to assist in the invigilation of examinations and to respond to and deal with queries regarding any aspect of the examination which may be raised by candidates;
 - (d) maintain records of the coursework, attendance, written and practical work or other information for each student undertaking an approved course of maritime study and such records are to be made available to the Board of Examiners, if and when required;
 - (e) submit to the Division a draft timetable for the scheduling and conduct of examinations, at least three months before the tentative commencement of the first examination.

Qualification of instructor, supervisor and assessor

8.—(1) The Director shall ensure that instructors, supervisors and assessors are appropriately qualified for the particular types and levels of training or assessment of competence of seafarers on board a ship or ashore, as required under these Regulations.

(2) A person providing type rating certificate training shall designate a person as type rating instructor or type rating examiner.

(3) A person designated under subregulation (2) shall be experienced in the operation of a high speed craft on the route on which it will be instructing and examining and be approved by the Minister, and under no circumstances will the same person be allowed to work as a type rating instructor and a type rating examiner.

*Shipping (Manning and Certification) Regulations***In-service training**

9.—(1) A person who conducts in-service training of a seafarer, on board a ship or ashore, which is intended to be used in qualifying for certification under these Regulations, shall —

- (a) have an appreciation of the training programme and an understanding of the specific training objectives for the particular type of training being conducted;
- (b) be qualified in the task for which training is being conducted; and
- (c) if conducting training using a simulator —
 - (i) have received appropriate guidance in instructional techniques involving the use of simulators, and
 - (ii) have gained practical operational experience on the particular type of simulator being used.

(2) A person who is responsible for the supervision of in-service training of a seafarer intended to be used in qualifying for certification under these Regulations shall fully understand the training programme and the specific objectives for each type of training being conducted.

In-service assessment of competence

10. A person who conducts in-service assessment of competence of a seafarer, on board a ship or ashore, which is intended to be used in qualifying for certification under these Regulations, shall —

- (a) have an appropriate level of knowledge and understanding of the competence to be assessed;
- (b) be qualified in the task for which the assessment is being made;
- (c) have received appropriate guidance in assessment methods and practice;
- (d) have gained practical assessment experience; and
- (e) if conducting assessment involving the use of simulators, have gained practical assessment experience on the particular type of simulator under the supervision and to the satisfaction of an experienced assessor.

*Shipping (Manning and Certification) Regulations***Training of hovercraft personnel**

11.—(1) An owner of a hovercraft shall ensure that masters, seafarers and other personnel have completed the training specified by the Minister.

(2) A person providing the training referred to under subregulation (1) shall issue documentary evidence to every person successfully completing such training.

(3) In the case of masters and of officers having an operational role on high speed craft, the documentary evidence must be a certificate in a form specified by the Minister and endorsed in a manner specified by the Minister.

General performance standard for simulator used in training

12. The Director shall ensure that any simulator used for simulator-based training —

- (a) is suitable for the selected objectives and training tasks;
- (b) is capable of simulating the operating capabilities of shipboard equipment, to a level of physical realism appropriate to training objectives and include the capabilities, limitations and possible errors of such equipment;
- (c) has sufficient behavioural realism to allow a trainee to acquire the skills appropriate to the training objectives;
- (d) provides a controlled operating environment, capable of producing a variety of conditions, which may include emergency, hazardous or unusual situations relevant to the training objectives;
- (e) provides an interface through which a trainee can interact with the equipment, the simulated environment and, as appropriate, the instructor; and
- (f) permits an instructor to control, monitor and record exercises for the effective debriefing of trainees.

*Shipping (Manning and Certification) Regulations***General performance standards for simulators used in assessment of competence**

13. A simulator used for the assessment of competence required under these Regulations or for any demonstration of continued proficiency required must —

- (a) be capable of satisfying the specified assessment objectives;
- (b) be capable of simulating the operational capabilities of the shipboard equipment to a level of physical realism appropriate to the assessment objectives and to include the capabilities, limitations and possible errors of such equipment;
- (c) have sufficient behavioural realism to allow a candidate to exhibit the skills appropriate to the assessment objectives;
- (d) provide an interface through which a candidate can interact with the equipment and simulated environment;
- (e) provide a controlled operating environment, capable of producing a variety of conditions, which may include emergency, hazardous or unusual situations relevant to assessment objectives; and
- (f) permit an assessor to control, monitor and record exercises for the effective assessment of the performance of candidates.

Radar simulation

14. Radar simulation equipment must be capable of simulating the operational capabilities of navigational radar equipment which meets all applicable performance standards adopted by the IMO and incorporate facilities to —

- (a) operate in the stabilized relative motion mode and sea and ground stabilized true motion mode;
- (b) model weather, tidal streams, current, shadow sectors, spurious echoes and other propagation effects, and generate coastlines, navigational buoys and search and rescue transponders; and
- (c) create a real-time operating environment incorporating at least two own-ship stations with ability to change own

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ship's course and speed, and include parameters for at least twenty target ships and appropriate communication facilities.

Automatic radar plotting aid simulation

15. Automatic radar plotting aid simulation equipment must be capable of simulating the operational capabilities of automatic radar plotting aids which meet all applicable performance standards adopted by IMO and must incorporate the facilities for —

- (a) manual and automatic target acquisition;
- (b) past track information;
- (c) use of exclusion areas;
- (d) vector or graphic time-scale and data display; and
- (e) trial manoeuvres.

Simulator training objective

16. A person who conducts simulator-based training shall ensure that the aims and objectives of the simulator-based training are defined within an overall training programme and that specific training objectives and tasks are selected so as to relate as closely as possible to shipboard tasks and practices.

Training procedure

17. In conducting simulator-based training, instructors shall ensure that —

- (a) trainees are adequately briefed beforehand on the exercise objectives and tasks and are given sufficient planning time before the exercise starts;
- (b) trainees have adequate familiarization time on the simulator and with its equipment before any training or assessment exercise commences;
- (c) guidance given and exercise stimuli are appropriate to the selected exercise objectives and tasks and to the level of trainee experience;
- (d) exercises are effectively monitored, supported as appropriate by audio and visual observation of trainee

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activity and pre-exercise evaluation reports and post-exercise evaluation reports;

- (e) trainees are effectively debriefed to ensure that training objectives have been met and that operational skills demonstrated are of an acceptable standard;
- (f) the use of peer assessment during debriefing is encouraged; and
- (g) simulator exercises are designed and tested so as to ensure suitability for the specified training objectives.

Assessment procedure

18. Where a simulator is used to assess the ability of a candidate to demonstrate levels of competency, an assessor shall ensure that —

- (a) performance criteria are identified clearly and explicitly and are valid and available to the candidates;
- (b) assessment criteria are established clearly and are explicit to ensure reliability and uniformity of assessment and to optimise objective measurement and evaluation, to keep subjective judgements to a minimum;
- (c) candidates are briefed clearly on the tasks or skills to be assessed and on the tasks and performance criteria by which competence will be determined;
- (d) assessment of performance takes into account normal operating procedures and any behavioural interaction with other candidates on the simulator or simulator staff;
- (e) scoring or grading methods to assess performance are used with caution until they have been validated; and
- (f) the prime criterion is that a candidate demonstrates the ability to carry out a task safely and effectively to the satisfaction of the assessor.

On-board training

19.—(1) This regulation applies to a candidate for certification as officer in charge of —

- (a) a navigational watch of ships of 500 GT or more whose seagoing service forms part of a training programme; or

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- (b) an engineering watch in a manned engine-room or as a designated duty engineer in a periodically unmanned engine-room of ships powered by main propulsion machinery of 750kW or more.
- (2) An approved programme of on-board training must —
- (a) ensure that during the required period of seagoing service the candidate receives systematic practical training and experience in the tasks, duties and responsibilities of an officer in charge of a navigational watch or an officer in charge of an engine-room watch;
 - (b) be closely supervised and monitored by qualified officers on board the ship in which the approved seagoing service is performed; and
 - (c) be adequately documented in a training record book or similar document.

Assessment on safety of ship, crew, cargo and protection of the marine environment

20.—(1) This regulation applies where —

- (a) a chief mate of a ship of 500 GT is in a position to assume the responsibility of master; or
- (b) a second engineer officer is in a position to assume the responsibilities of the chief engineer.

(2) An assessment shall be designed to test —

- (a) the ability of the chief mate or second engineer officer to assimilate all available information that affects the safety of the ship, passengers of the ship, crew, cargo or the protection of the marine environment;
- (b) the ability of the second engineer officer to assimilate all available information that affects the safe operation of the machinery of the ship and the protection of the marine environment.

Special training

21. A candidate for certification as officer in charge of a navigational watch on ships of less than 500 GT, engaged on near-coastal voyages,

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who is required to have completed special training, 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 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.

Training and qualification of master, officer and rating on tanker

22.—(1) An officer and a rating assigned specific duties and responsibilities related to cargo or cargo equipment on a tanker shall complete an approved shore-based firefighting course and shall, subject to regulation 26, complete —

- (a) at least three months of approved seagoing service on tankers in order to acquire adequate knowledge of safe operational practices; or
- (b) an approved tanker familiarization course covering at least the syllabus given for that course in subregulation (3), but the Minister or any person authorized by the Minister may accept a period of supervised seagoing service shorter than the period specified in paragraph (a), where —
 - (i) the period accepted is not less than one month,
 - (ii) the tanker is of less than 3,000 GT,
 - (iii) the duration of each voyage on which the tanker is engaged during the period does not exceed seventy-two hours, and
 - (iv) the operational characteristics of the tanker and the number of voyages, loading and discharging operations completed during the period, allow the same level of knowledge and experience to be acquired.

(2) Without prejudice to subregulation (1), a master, chief engineer officer, chief mate, second engineer officer or a person with immediate

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responsibility for loading, discharging and care in transit or handling of cargo shall —

- (a) have experience appropriate to his or her duties on the type of tanker on which he or she serves; and
 - (b) complete an approved specialized training programme which at least covers the subjects set out in subregulation (4), (5) or (6) that are appropriate to his or her duties on the oil tanker, chemical tanker or liquefied gas tanker on which he or she serves.
- (3) The tanker familiarization course referred to in subregulation (1)(b) must cover at least the following syllabus —
- (a) characteristics of cargoes that includes an outline treatment including —
 - (i) practical demonstration of the physical properties of oil, chemicals and gases carried in bulk,
 - (ii) vapour pressure or temperature relationship,
 - (iii) influence of pressure on boiling temperature,
 - (iv) explanation of saturated vapour pressure, diffusion, partial pressure, flammability limits, flashpoint and auto- ignition temperature,
 - (v) practical significance of flashpoint and lower flammable limit,
 - (vi) simple explanation of types of electrostatic charge generation,
 - (vii) chemical symbols and structures,
 - (viii) elements of the chemistry of acids and bases and chemical reactions of well-known groupings sufficient to enable proper utilization of codes;
 - (b) toxicity, that includes a simple explanation of principles and basic concepts including toxicity limits, acute and chronic effects of toxicity and systemic poisons and irritants;
 - (c) hazards that include an explanation of hazards, including —

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- (i) explosion and flammability hazards, flammability limits and sources of ignition and explosion,
 - (ii) health hazards, including the dangers of skin contact, inhalation and ingestion; oxygen deficiency, with particular reference to inert gas systems; harmful properties of cargo carried; accidents to personal and associated first-aid,
 - (iii) hazards to the environment, covering: the effect on human and marine life from the release of oil, chemicals or gases; effect of specific gravity and solubility; danger from vapour cloud drift; effect of vapour pressure and atmospheric conditions,
 - (iv) reactivity hazards covering self-reaction; polymerization; effects of temperature; impurities as catalysts; reaction with air, water and other chemicals, and
 - (v) corrosion hazards, covering the dangers to personnel; attacks on constructional materials; effects of concentration and evolution of hydrogen;
- (d) hazard control, that includes inerting, water padding, drying agents and monitoring techniques; anti-static measures; ventilation; segregation; cargo inhibition and the importance of compatibility of materials;
- (e) safety equipment and protection of personnel including —
- (i) the function and calibration of measuring instruments and similar equipment,
 - (ii) specialized fire-extinguishing appliances,
 - (iii) breathing apparatus and tanker evacuating equipment,
 - (iv) safe use of protective clothing and equipment,
 - (v) use of resuscitators and other rescue and escape equipment;
- (f) pollution prevention that includes procedures to be followed to prevent air and water pollution and measures to be taken in the event of spillage, including the need to —

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- (i) 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,
 - (ii) promptly notify shore-based response personnel, and
 - (iii) properly implement shipboard spill-containment procedures.
- (4) The specialized training programme referred to under subregulation (2)(b) appropriate to duties on oil tankers shall provide theoretical and practical knowledge of the following subjects —
- (a) Regulations and codes of practice including —
 - (i) familiarization with the appropriate provisions of relevant international conventions,
 - (ii) relevant international and national codes,
 - (iii) IMO Manual on Oil Pollution,
 - (iv) relevant tanker safety guides and relevant port regulations as commonly applied;
 - (b) design and equipment of oil tankers including —
 - (i) familiarization with piping, pumping, tank and deck arrangements,
 - (ii) types of cargo pumps and their application to various types of cargo,
 - (iii) tank cleaning, gas-freeing and inerting systems,
 - (iv) cargo tank venting and accommodation ventilation,
 - (v) gauging systems and alarms,
 - (vi) cargo heating systems, and
 - (vii) the safety aspects of electrical systems;
 - (c) cargo characteristics including knowledge of the chemical and physical properties of different oil cargoes;
 - (d) ship operations including—
 - (i) cargo calculations, loading and discharging plans, loading and discharge procedures, including ship-to-ship transfers, checklists, use of monitoring equipment,

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- (ii) importance of proper supervision of personnel,
 - (iii) gas-freeing operations and tank cleaning operations,
 - (iv) where appropriate, crude oil washing procedures and the operation and maintenance of inert gas systems,
 - (v) control of entry into pump-rooms and enclosed spaces,
 - (vi) use of gas-detecting and safety equipment,
 - (vii) load-on-top and proper ballasting and deballasting procedures,
 - (viii) air and water pollution prevention;
- (e) repair and maintenance including —
- (i) precautions to be taken before and during repair and maintenance work, including that affecting pumping, piping, electrical and control systems,
 - (ii) safety factors necessary in the performance of hot work; control of hot work and proper hot-work procedures;
- (f) emergency operations including —
- (i) the importance of developing ship emergency plans,
 - (ii) cargo operations emergency shutdown,
 - (iii) action in the event of failure of services essential to cargo,
 - (iv) fire fighting on oil tankers,
 - (v) action following collision, stranding or spillage,
 - (vi) medical first-aid procedures, and
 - (vii) the use of resuscitation equipment; use of breathing apparatus for safe entry into and rescue from enclosed spaces.

(5) The specialized training programme referred to under subregulation (2)(b) appropriate to duties on chemical tankers shall provide theoretical and practical knowledge of the following subjects —

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- (a) Regulations and codes of practice, including familiarization with relevant —
 - (i) international conventions,
 - (ii) IMO and national codes,
 - (iii) tanker safety guides, and
 - (iv) port regulations, as commonly applied;
- (b) design and equipment of chemical tankers including a brief description of —
 - (i) specialized piping, pumping and tank arrangements, overflow control,
 - (ii) types of cargo pumps and their application to various types of cargo,
 - (iii) tank cleaning and gas-freeing systems,
 - (iv) cargo tank venting,
 - (v) vapour-return systems,
 - (vi) accommodation ventilation, airlocks,
 - (vii) gauging systems and alarms,
 - (viii) tank temperature control systems and alarms, and
 - (ix) the safety factors of electrical systems;
- (c) cargo characteristics including sufficient knowledge of liquid chemical cargo characteristics to allow proper use of relevant cargo safety guides;
- (d) ship operations including —
 - (i) cargo calculations,
 - (ii) loading and discharging plans,
 - (iii) loading and discharge procedures,
 - (iv) vapour-return systems,
 - (v) checklists,
 - (vi) use of monitoring equipment,

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- (vii) gas-freeing operations and tank cleaning operations, including proper use of absorption and wetting agents and detergents,
 - (viii) use and maintenance of inert atmospheres,
 - (ix) control of entry into pump-rooms and enclosed spaces,
 - (x) use of detecting and safety equipment, and
 - (xi) disposal of waste and washings;
- (e) repair and maintenance including precautions to be taken before the repair and maintenance of pumping, piping, electrical and control systems; and
- (f) emergency operations including —
- (i) the importance of developing ship emergency plans,
 - (ii) cargo operations emergency shutdown,
 - (iii) action in the event of failure of services essential to cargo,
 - (iv) fire fighting on chemical tankers,
 - (v) action following collision, stranding or spillage,
 - (vi) medical first-aid procedures and the use of resuscitation and decontamination equipment,
 - (vii) use of breathing apparatus and escape equipment,
 - (viii) safe entry into and rescue from enclosed spaces.
- (6) The specialized training programme referred to under subregulation (2)(b) appropriate to the duties on liquefied gas tankers must provide theoretical and practical knowledge of the following subjects —
- (a) Regulations and codes of practice including familiarization with —
 - (i) relevant international conventions and IMO, national and industry codes,
 - (ii) the ship design and equipment of liquefied gas tankers,
 - (iii) types of liquefied gas tankers,

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- (iv) cargo-containment systems, construction, surveys,
- (v) cargo-handling equipment, such as pumps, piping systems,
- (vi) cargo conditioning systems, such as warm-up, cool-down,
- (vii) tank atmosphere control systems, such as inert gas, nitrogen,
- (viii) instrumentation of cargo-containment and handling systems,
- (ix) fire-fighting system and safety and rescue equipment;
- (b) firefighting, including advanced practical firefighting techniques and tactics applicable to gas tankers, including the use of water-spray systems;
- (c) chemistry and physics, including an introduction to basic chemistry and physics as it relates to the safe carriage of liquefied gases in bulk in ships, covering —
 - (i) the properties and characteristics of liquefied gases and their vapours, including —
 - (A) the definition of gas;
 - (B) simple gas laws;
 - (C) the gas equation;
 - (D) density of gases;
 - (E) diffusion and mixing of gases;
 - (F) compression of gases;
 - (G) liquefaction of gases;
 - (H) refrigeration of gases;
 - (I) critical temperature;
 - (J) the practical significance of flashpoint;
 - (K) upper and lower explosive limits;
 - (L) auto-ignition temperature;

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- (M) compatibility of gases;
- (N) reactivity;
- (O) polymerization and inhibitors,
- (ii) the properties of single liquids, including — densities of liquids and vapours; variation with temperature; vapour pressure and temperature; enthalpy; vaporization and boiling liquids, and
- (iii) the nature and properties of solutions, including—
 - (A) the solubility of gases in liquids;
 - (B) miscibility between liquids and effects of temperature change;
 - (C) densities of solutions and dependence on temperature and concentration;
 - (D) effects of dissolved substances on melting and boiling points;
 - (E) hydrates, formation and dispersion;
 - (F) hygroscopicity;
 - (G) drying of air and other gases;
 - (H) dew point and low-temperature effects;
- (d) health hazards including familiarization with health hazards relevant to the carriage of liquefied gas, covering —
 - (i) toxicity, including —
 - (A) the modes by which liquefied gases and their vapours may be toxic;
 - (B) the toxic properties of inhibitors and of products of combustion of both materials of construction and of liquefied gases carried;
 - (C) acute and chronic effects of toxicity, systemic poisons and irritants; and
 - (D) the Threshold Limit Value (TLV),
 - (ii) hazards of skin contact, inhalation and ingestion, and

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- (iii) medical first aid and administration of antidotes;
- (e) cargo containment, including —
 - (i) principles of containment systems,
 - (ii) rules,
 - (iii) surveys, and
 - (iv) tank construction, materials, coatings, insulation and compatibility;
- (f) pollution, including —
 - (i) hazards to human life and to the marine environment,
 - (ii) the effect of specific gravity and solubility,
 - (iii) danger from vapour cloud drift, and
 - (iv) the jettisoning of cryogenic liquids;
- (g) cargo-handling systems, including —
 - (i) a description of the main types of pumps and pumping arrangements and vapour-return systems, piping systems and valves,
 - (ii) an explanation of —
 - (A) pressure, vacuum, suction, flow, head filters and strainers;
 - (B) expansion devices;
 - (C) flame screens;
 - (D) commonly used inert gases;
 - (E) storage, generation and distribution systems;
 - (F) temperature and pressure monitoring systems;
 - (G) cargo vent systems;
 - (H) liquid re-circulation and re-liquefaction systems;
 - (I) cargo gauging, instrumentation systems and alarms;
 - (J) gas detection and monitoring systems;

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- (K) carbon dioxide monitoring systems;
- (L) cargo boil-off systems and auxiliary systems;
- (h) ship operating procedures, including —
 - (i) loading and discharging preparations and procedures,
 - (ii) checklists,
 - (iii) cargo condition maintenance on passage and in harbour,
 - (iv) segregation of cargoes and procedures for cargo transfer,
 - (v) changing cargoes, tank cleaning procedures,
 - (vi) cargo sampling,
 - (vii) ballasting and deballasting,
 - (viii) warm up and gas-freeing procedures, and
 - (ix) procedures for cool down of a gas-free system from ambient temperature and the safety precautions involved;
- (i) safety practices and equipment including —
 - (i) the function, calibration and use of portable measuring instruments,
 - (ii) fire fighting equipment and procedures,
 - (iii) breathing apparatus,
 - (iv) resuscitators, (vi) escape sets,
 - (v) rescue equipment,
 - (vi) protective clothing and equipment,
 - (vii) entry into enclosed spaces,
 - (viii) precautions to be observed before and during repair and maintenance of cargo and control systems,
 - (ix) supervision of personnel during potentially hazardous operations,

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- (x) types and principles of certified safe electrical equipment and sources of ignition; and
- (j) emergency procedures including —
 - (i) the importance of developing ship emergency plans,
 - (ii) emergency shutdown of cargo operations,
 - (iii) emergency cargo valve closing systems,
 - (iv) action to be taken in the event of failure of systems or services essential to cargo,
 - (v) and action to be taken following collision or stranding, spillage and envelopment of the ship in toxic or flammable vapour;
- (k) general principles of cargo operations including —
 - (i) inerting cargo tank and void spaces,
 - (ii) tank cool down and loading,
 - (iii) operations during loaded and ballasted voyages,
 - (iv) discharging and tank stripping, and
 - (v) emergency procedures, including pre-planned action in the event of leaks, fire, collision, stranding, emergency cargo discharge and personnel casualty.

Training and qualification of master, officer, rating and other personnel onboard ro-ro passenger ship

23.—(1) This regulation applies to a master, officer, rating and other personnel serving on board a ro-ro passenger ship engaged in international voyages and the Minister or any person authorized by the Minister shall determine the applicability of these requirements to personnel serving on board a ro-ro passenger ship engaged in domestic voyages.

(2) Prior to being assigned shipboard duties on board a ro-ro passenger ship, a seafarer shall complete the training required under subregulations (4) to (8) in accordance with their capacity, duties and responsibilities.

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(3) A seafarer who is required to be trained under subregulations (4), (7) and (8) shall, at intervals not exceeding five years, undertake appropriate refresher training or be required to provide evidence of having achieved the required standard of competence within the previous five years.

(4) A master, officer, rating and other personnel designated on a muster list to assist passengers in emergency situations on board a ro-ro passenger ship shall complete training in crowd management under subregulation (10).

(5) A master, officer, rating and other personnel assigned specific duties and responsibilities on board a ro-ro passenger ship shall complete the familiarization training under subregulation (11).

(6) Personnel providing direct service to passengers in passenger spaces on board a ro-ro passenger ship shall complete the safety training specified in subregulation (12).

(7) A master, chief mate, chief engineer officer, second engineer officer and a person assigned immediate responsibility for embarking and disembarking passengers, loading, discharging or securing cargo or closing hull openings on board a ro-ro passenger ship shall complete approved training in passenger safety, cargo safety and hull integrity under subregulation (13).

(8) A master, chief mate, chief engineer officer, second engineer officer and any person having responsibility for the safety of passengers in emergency situations on board a ro-ro passenger ship shall complete approved training in crisis management and human behaviour under subregulation (14).

(9) The Division shall ensure that documentary evidence of the training which is completed is issued to a person found qualified under this regulation.

(10) The crowd management training required under subregulation (4) for personnel designated on a muster list to assist passengers in emergency situations includes —

(a) awareness of life-saving appliance and control plans, including —

(i) knowledge of the muster list and emergency instructions,

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- (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) controlling passengers in corridors, staircases and passageways,
 - (iii) maintaining escape routes clear of obstructions,
 - (iv) using of methods available for evacuating disabled persons and persons needing special assistance, and
 - (v) searching 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 lifejackets correctly.

(11) The familiarization training required under subregulation (5) must 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 —

- (a) design and operational limitations, including the 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;
- (b) procedures for opening, closing and securing hull openings, including the ability to apply properly the procedures established for the ship regarding the opening, closing

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and securing of bow, stern, side doors and ramps, and to correctly operate the related systems;

- (c) legislation, codes and agreements affecting a ro-ro passenger ship, including the ability to understand and apply international and national requirements for a ro-ro passenger ship and the duties to be performed;
- (d) stability and stress requirements and limitations, including the 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 a ro-ro passenger ship;
- (e) procedures for the maintenance of special equipment on board a ro-ro passenger ship, including the ability to apply properly the shipboard procedures for maintenance of equipment peculiar to a ro-ro passenger ship such as bow, stern, side doors, ramps, scuppers and associated systems;
- (f) loading and cargo securing manuals and calculators, including the 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;
- (g) dangerous cargo areas, including the ability to ensure proper observance of special precautions and limitations applying to designated dangerous cargo areas; and
- (h) emergency procedures including the 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) minimize effects of water on vehicle decks.

(12) The additional safety training required under subregulation (6), shall ensure attainment of —

- (a) the ability to communicate with passengers during an emergency, having regard to —

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- (i) the language 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 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, hand signals, 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, and
 - (v) 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;
- (b) the ability to demonstrate to passengers the use of personal life-saving appliances.

(13) The passenger safety, cargo safety and hull integrity training required under subregulation (7), for a master, chief mate, chief engineer officer, second engineer officer and a person assigned immediate responsibility for embarking and disembarking passengers, for loading, discharging or securing cargo or for closing hull openings shall ensure attainment of the abilities that are appropriate to his or her duties and responsibilities as follows —

- (a) loading and embarkation procedures including the 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,

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- (iii) setting up and stowing retractable vehicle decks, and
- (iv) embarking and disembarking passengers, with special attention to disabled persons and persons needing special assistance;
- (b) carrying dangerous goods including the ability to apply any special safeguards, procedures and requirements regarding the carriage of dangerous goods on board a ro-ro passenger ship;
- (c) securing cargo including the 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;
- (d) stability, trim and stress calculations including the 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 programs provided,
 - (iii) calculate load factors for decks, and
 - (iv) calculate the impact of ballast and fuel transfers on stability, trim and stress;
- (e) opening, closing and securing hull openings including the 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,
 - (ii) conduct surveys on proper sealing; and
- (f) ro-ro deck atmosphere including the ability to —
 - (i) use equipment, where carried, to monitor atmosphere in ro-ro cargo spaces, and

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- (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 in emergencies.

(14) A master, chief mate, chief engineer officer, second engineer officer and any person having responsibility for the safety of passengers in emergency situations shall —

- (a) successfully complete the approved crisis management and human behaviour training required under subregulation (8), in accordance with his or her capacity, duties and responsibilities as set out in Part 1 of Schedule 1; and
- (b) provide evidence that the required standard of competence has been achieved in accordance with the methods and the criteria for evaluating competence set out in columns 3 and 4 of Part 1 of Schedule 1.

Training and qualification of a master, officer, rating and other personnel on board a passenger ship other than a ro-ro passenger ship

24.—(1) This regulation applies to a master, officer, rating and other personnel serving on a passenger ship, other than a ro-ro passenger ship, engaged in international voyages and the Minister or any person authorized by the Minister shall determine the applicability of these requirements to personnel serving on passenger ships engaged on domestic voyages.

(2) Prior to being assigned shipboard duties on board a passenger ship, a seafarer shall complete the training required under subregulations (4) to (8) in accordance with their capacity, duties and responsibilities.

(3) A seafarer who is required to be trained under subregulations (4), (7) and (8) shall, at intervals not exceeding five years, undertake appropriate refresher training to be required to provide evidence of having achieved the required standard of competence within the previous five years.

(4) Personnel designated on a muster list to assist passengers in emergency situations on board a passenger ship must complete training in crowd management under subregulation (10).

(5) A master, officer and other personnel assigned specific duties and responsibilities on board a passenger ship must complete the familiarization training under subregulation (11).

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(6) Personnel providing direct service to passengers on board a passenger ship in passenger spaces must complete the safety training under subregulation (12).

(7) A master, chief mate, and every person assigned immediate responsibility for embarking and disembarking passengers shall complete approved training in passenger safety as specified in subregulation (13).

(8) A master, chief mate, chief engineer officer, second engineer officer and any person having responsibility for the safety of passengers in emergency situations on board a passenger ship shall complete approved training in crisis management and human behaviour under subregulation (14).

(9) The Minister or any person authorized by the Minister shall ensure that documentary evidence of the training which is complete is issued to every person found qualified under this regulation.

(10) The crowd management training required under subregulation (4) for personnel designated on a muster list to assist passengers in emergency situations includes —

- (a) the awareness of life-saving appliance and control plans, including —
 - (i) knowledge of the muster list and emergency instructions,
 - (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 passage ways,
 - (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; and

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- (c) the 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 lifejackets correctly.

(11) The familiarization training required under subregulation (5) must ensure attainment of the abilities that are appropriate to the capacity to be filled and the duties and responsibilities to be taken up including design and operational limitations that include the 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.

(12) The additional safety training required under subregulation (6) must ensure attainment of —

- (a) the ability to communicate with passengers during an emergency, having regard to —
 - (i) the language appropriate to the principal nationalities of passengers carried on a 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 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, and

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- (v) 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; and
- (b) the ability to demonstrate to passengers the use of personal life-saving appliances.

(13) The passenger safety training required under subregulation (7) for a master, chief mate and a person assigned immediate responsibility for embarking and disembarking passengers must ensure attainment of the ability appropriate to his or her duties and responsibilities to embark and disembark passengers with special attention to disabled persons and persons needing special assistance.

(14) A master, chief mate, chief engineer officer, second engineer officer and a person having responsibility for the safety of passengers in emergency situations shall —

- (a) successfully complete the approved training in crisis management and human behaviour required under subregulation (8), in accordance with his or her capacity, duties and responsibilities as set out in Part 1 of Schedule 1; and
- (b) provide evidence that the required standard of competence is achieved in accordance with the methods and the criteria for evaluating competence set out in columns 3 and 4 of Part 1 of Schedule 1.

Basic training

25.—(1) A seafarer employed or engaged in any capacity on board a ship, on the business of that ship as part of the complement of the ship, with designated safety or pollution-prevention duties in the operation of the ship shall, before being assigned to any shipboard duties —

- (a) receive basic training or instruction in —
 - (i) personal survival techniques as set out in Part 2 of Schedule 1,
 - (ii) fire prevention and firefighting as set out in Part 3 of Schedule 1,
 - (iii) elementary first aid as set out in Part 4 of Schedule 1, and

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- (iv) personal safety and social responsibilities as set out in Part 5 of Schedule 1;
- (b) provide evidence of having achieved the required standard of competence to undertake the tasks, duties and responsibilities listed in column 1 of Parts 2, 3, 4 and 5 of Schedule 1 within the previous five years through —
 - (i) a demonstration of competence, in accordance with the methods and the criteria for evaluating competence set out in columns 3 and 4 of Parts 2, 3, 4 and 5 of Schedule 1, and
 - (ii) an examination or a continuous assessment as part of an approved training programme in the subjects listed in column 2 of Parts 2, 3, 4 and 5 of Schedule 1.

(2) The Minister or a person authorized by the Minister may, if he or she considers that the size of the ship and the length or character of its voyage are such as to render the application of the full requirements of this regulation unreasonable or impracticable, exempt the seafarers on such a ship from some of the requirements, having regard to the safety of people on board, the ship and property and the protection of the marine environment.

(3) Subregulation (2) applies to ships other than passenger ships of more than 500 GT engaged in international voyages and tankers.
Familiarization, basic safety training and instruction for seafarer

26. A seafarer shall receive familiarization and basic training or instruction and shall before being assigned to shipboard duties, receive approved familiarization training in personal survival techniques or receive sufficient information and instruction to be able to —

- (a) communicate with other persons on board with respect to elementary safety matters and understand safety information symbols, signs and alarm signals;
- (b) respond to —
 - (i) a person who falls overboard,
 - (ii) a fire or the detection of smoke,
 - (iii) the sounding of the fire alarm or the abandon ship alarm;

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- (c) identify muster and embarkation stations and emergency escape routes;
- (d) locate and don lifejackets;
- (e) raise the alarm and have basic knowledge of the use of portable fire extinguishers;
- (f) take immediate action upon encountering an accident or other medical emergency before seeking further medical assistance on board; and
- (g) close and open the fire, weathertight and watertight doors fitted in the particular ship other than those for hull openings.

Training in advanced firefighting

27.—(1) A seafarer designated to control firefighting operations shall complete advanced training in techniques for firefighting with particular emphasis on organization, tactics and command under these Regulations and shall meet the standard of competence under subregulation (3).

(2) Where training in advanced firefighting is not included in the qualifications for the certificate to be issued, a special certificate or documentary evidence, must be issued indicating that the holder has attended a course of training in advanced firefighting.

(3) For the purposes of subregulation (1), the standard of competence to be met by a seafarer designated to control firefighting operations are —

- (a) successful completion of advanced training in techniques for firefighting, with particular emphasis on organization, tactics and command;
- (b) to demonstrate competence to undertake the tasks, duties and responsibilities listed in column 1 of the table set out in Part 6 of Schedule 1; and
- (c) the level of knowledge and understanding of the subjects listed in column 2 of the table set out in Part 6 of Schedule 1 is sufficient for the effective control of firefighting operations on board a ship.

(4) A candidate for certification under this regulation shall provide evidence of having achieved the required standard of competence

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within the previous five years, in accordance with the methods for demonstrating competence and the criteria for evaluating competence listed in columns 3 and 4 of the table set out in Part 6 of Schedule 1.

Medical first aid and medical care

28.—(1) A seafarer designated to provide medical first aid on board a ship shall meet the standard of competence in medical first aid under subregulation (4).

(2) A seafarer designated to take charge of medical care on board a ship shall meet the standard of competence in medical care on board ship under subregulation (6).

(3) Where training in medical first aid or medical care is not included in the qualifications for the certificate issued, a special certificate or documentary evidence must be issued indicating that the holder has attended a course of training in medical first aid or medical care.

(4) For the purposes of subregulation (1), the standards of competence for a seafarer designated to provide medical first aid on board a ship are —

- (a) to demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of the table set out in Part 7 of Schedule 1;
- (b) the level of knowledge of the subjects listed in column 2 of the table set out in Part 7 of Schedule 1 is sufficient to enable the designated seafarer to take immediate effective action in the case of accidents or illness likely to occur on board a ship.

(5) A candidate for certification under subregulation (1) shall provide evidence that the required standard of competence is achieved in accordance with the methods for demonstrating competence and the criteria for evaluating competence listed in columns 3 and 4 of the table set out in Part 7 of Schedule 1.

(6) For the purposes of subregulation (2), the standards of competence to be met by a seafarer who is designated to take charge of medical care on board a ship are —

- (a) to demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of the table set out in Part 7 of Schedule 1;

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- (b) the level of knowledge of the subjects listed in column 2 of the table set out in Part 7 of Schedule 1 is sufficient to enable the designated seafarer to take immediate effective action in the case of accidents or illness likely to occur on board a ship.

(7) A candidate for certification under subregulation (2) shall provide evidence that the required standard of competence is achieved in accordance with the methods for demonstrating competence and the criteria for evaluating competence listed in columns 3 and 4 of the table set out in Part 7 of Schedule 1.

Type rating training for high speed craft

29.—(1) The level of competence and the training considered necessary in respect of a master and each crew member must be laid down and demonstrated in the light of the following guidelines to the satisfaction of the company in respect of the particular type and model of high speed craft and the service intended and more than one crew member must be trained to perform all essential operational tasks in normal and emergency situations.

(2) The Minister or any person authorized by the Minister shall specify an appropriate period of operational training for the master and each member of the crew and, if necessary, the periods at which appropriate retraining must be carried out.

(3) The Minister or any person authorized by the Minister must issue a type rating certificate to the master and all officers having an operational role following an appropriate period of operational or simulator training and on the conclusion of an examination including a practical test commensurate with the operational tasks on board the particular type and model of high speed craft and the route followed and the type rating training must cover the following —

- (a) knowledge of all on-board propulsion and control systems, including communication and navigational equipment, steering, electrical, hydraulic and pneumatic systems and bilge and fire pumping;
- (b) the failure mode of the control, steering and propulsion systems and proper response to such failures;
- (c) handling characteristics of the high speed craft and the limiting operational conditions;

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- (d) bridge communication and navigation procedures;
- (e) intact and damage stability and survivability of the high speed craft in damage condition;
- (f) location and use of the life-saving appliances of the high speed craft, including survival craft equipment;
- (g) location and use of escapes in the high speed craft and the evacuation of passengers;
- (h) location and use of fire protection and fire-extinguishing appliances and systems in the event of fire on board;
- (i) location and use of damage control appliances and systems, including operation of watertight doors and bilge pumps;
- (j) cargo and vehicle stowage and securing systems;
- (k) methods for control of and communication with passengers in an emergency; and
- (l) location and use of all other items listed in the training manual.

(4) The type rating certificate for a particular type and model of high speed craft is only valid for service on the route to be followed when it is endorsed by the Minister or any person authorized by the Minister following the completion of a practical test over that route.

(5) The type rating certificate must be re-validated every two years and the Minister or any person authorized by the Minister shall set the procedures for re-validation.

(6) A company shall ensure that the type rating training for passenger high speed craft is implemented and for all crew members, the type rating training covers the control and evacuation of passengers.

(7) When a passenger high speed craft carries cargo, the high speed craft must comply with subregulation (8).

(8) A company shall ensure that type rating training is implemented and for all crew members, the type rating training for cargo high speed craft covers knowledge of cargo and vehicles storage areas.

*Shipping (Manning and Certification) Regulations***PART II
CERTIFICATION***Division 1
Master and deck department***Certification of officer in charge of a navigational watch on a seagoing ship of 500 GT or more**

30.—(1) A person shall not serve as an officer in charge of a navigational watch on a seagoing ship of 500 GT or more unless that person holds a valid certificate of competence.

(2) A person who contravenes subregulation (1) commits an offence and is liable on summary conviction to a fine not exceeding ten thousand dollars or to imprisonment for a term not exceeding one year or to both such fine and imprisonment.

(3) A person may make an application to the Minister for a certificate if the person —

- (a) is eighteen years of age;
- (b) has approved seagoing service of one year as part of an approved training programme which includes on-board training which meets the requirements of this regulation and is documented in an approved training record book, or otherwise has approved seagoing service of three years;
- (c) has performed, during the required seagoing service, bridge watch-keeping duties under the supervision of the master or a qualified officer for a period of six months;
- (d) meets the applicable requirements of these Regulations for performing designated radio duties in accordance with the Radio Regulations; and
- (e) completes approved education and training and meets the standard of competence under subregulation (4).

(4) For the purposes of subregulation (3)(e), the standard of competence to be met by a candidate for certification are —

- (a) to demonstrate the competence to undertake, at an operational level, the tasks, duties and responsibilities listed in column 1 of the table set out in Part 8 of Schedule 1;
- (b) to hold a certificate for performing VHF radio-communications in accordance with the requirements of the Radio Regulations;

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- (c) if designated to have primary responsibility for radio-communications during distress incidents, to hold an appropriate certificate issued or recognized under the provisions of the Radio Regulations;
- (d) to demonstrate the minimum knowledge, understanding and proficiency listed in column 2 of the table set out in Part 8 of Schedule 1;
- (e) to demonstrate the level of knowledge of the subjects listed in column 2 of of the table set out in Part 8 of Schedule 1 which is sufficient for officers in charge of the navigational watch to carry out watch-keeping duties; and
- (f) training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency based on the principles to be observed in keeping a navigational watch.

(5) A person who makes an application for a certificate under this regulation shall 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 Part 8 of Schedule 1.

(6) The following subjects may be omitted from the subjects listed in column 2 of Part 8 of Schedule 1 for issue of restricted certificates for service on near-coastal voyages, having regard to the safety of all ships which may be operating in the same waters —

- (a) celestial navigation; and
- (b) electronic systems of position fixing and navigation that do not cover the waters for which the certificate is valid.

(7) An application under this regulation must be accompanied by the fee specified in the Shipping (Fees) Regulations, Cap. 13.27.

Certification of master and chief mate on a seagoing ship of 500 GT or more

31.—(1) A person shall not serve as a master and chief mate on a seagoing ship of 3,000 GT or more unless that person holds a valid certificate.

(2) A person who contravenes subregulation (1) commits an offence and is liable on summary conviction to a fine not exceeding ten

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thousand dollars or to imprisonment for a term of not exceeding one year or to both such fine and imprisonment.

(3) A person may make an application to the Minister for a certificate if the person —

- (a) meets the requirements for certification as an officer in charge of a navigational watch on ships of 500 GT or more and have approved seagoing service in that capacity —
 - (i) for certification as chief mate, for one year, and
 - (ii) for certification as master, for three years; however, this period may be reduced to two years if one year of such seagoing service is served as chief mate; and
- (b) completes approved education and training and meets the standard of competence under subregulation (4).

(4) For the purposes of subregulation (3)(b), the standards of competence to be met by a candidate for certification are —

- (a) to demonstrate the competence, at the management level, the tasks, duties and responsibilities listed in column 1 of the table set out in Part 9 of Schedule 1;
- (b) to demonstrate the minimum knowledge, understanding and proficiency required for certification listed in column 2 of the table set out in Part 9 of Schedule 1.

(5) Notwithstanding subregulation (4)(b), the level of theoretical knowledge, understanding and proficiency required under the different sections in column 2 of the table set out in Part 9 of Schedule 1 may be varied according to whether the certificate is valid for a ship of 3,000 GT or more or for a ship between 500 GT and 3,000 GT.

(6) A person shall 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 the table set out in Part 9 of Schedule 1.

(7) An application for a certificate under this regulation must be accompanied by the fee specified under the Shipping (Fees) Regulations, Cap.13.27

(8) The Minister may issue a certificate restricted to service on a ship engaged exclusively on near-coastal voyages and, for the issue

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of such a certificate, may exclude such subjects as are not applicable to the waters or a ship, having regard to the effect on the safety of all ships which may be operating in the same waters.

Certification of master and chief mate on a seagoing ship of between 500 GT and 3,000 GT

32.—(1) A person shall not serve as a master and a chief mate on a seagoing ship of between 500 GT and 3,000 GT unless that person holds a valid certificate.

(2) A person who contravenes subregulation (1) commits an offence and is liable on summary conviction to a fine not exceeding ten thousand dollars or to imprisonment for a term not exceeding one year or to both such fine and imprisonment.

(3) A person may make an application for a certificate if the person —

- (a) in the case of a certificate as chief mate, meets the requirements of an officer in charge of a navigational watch on a ship of between 500 GT and 3,000 GT;
- (b) in the case of a certificate as master, meets the requirements of an officer in charge of a navigational watch on a ship of between 500 GT and 3,000 GT or more and have approved seagoing service of —
 - (i) three years in that capacity,
 - (ii) two years if one year of such seagoing service is served as chief.

Certification of officer in charge of a navigational watch on a seagoing ship of less than 500 GT

33.—(1) A person shall not serve as an officer in charge of a navigational watch on a seagoing ship of less than 500 GT that is not engaged in near-coastal voyages unless that person holds a certificate under regulation 30.

(2) A person shall not serve as a master on a seagoing ship of less than 500 GT that is not engaged in near-coastal voyages unless that person holds a valid certificate under regulation 31.

(3) A person shall not serve as an officer in charge of a navigational watch or a master on a seagoing ship of less than 500 GT that is engaged in near-coastal voyages unless that person holds a valid certificate.

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(4) A person who contravenes subregulation (1), (2) or (3) commits an offence and is liable on summary conviction to a fine not exceeding ten thousand dollars or to imprisonment for a term not exceeding one year or to both such fine and imprisonment.

(5) A person may make an application for a certificate as an officer in charge of a navigational watch under subregulation (3) to the Minister if the person —

- (a) is eighteen years of age;
- (b) completes —
 - (i) special training, including an adequate period of appropriate seagoing service as required by the Minister or any person authorized by the Minister, or
 - (ii) approved seagoing service in the deck department of three years;
- (c) meets the applicable requirements of these Regulations for performing designated radio duties in accordance with the Radio Regulations; and
- (d) completes approved education and training and meets the standard of competence under subregulation (7).

(6) A person may make an application for a certificate as a master on a seagoing ship of less than 500 GT that is engaged in near-coastal voyages if the person —

- (a) is twenty years of age;
- (b) is approved for seagoing service of one year as officer in charge of a navigational watch; and
- (c) completes approved education and training and meets the standard of competence under subregulation (7).

(7) For the purposes of subregulations 5(d) and (6)(c), the standard of competence to be met by a candidate for certification are —

- (a) to demonstrate the competence to undertake, at operational level, the tasks, duties and responsibilities listed in column 1 of the table set out in Part 10 of Schedule 1;
- (b) to hold an appropriate certificate for performing VHF radio-communications in accordance with the requirements of the Radio Regulations;

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- (c) if designated to have primary responsibility for radio-communications during distress incidents, to hold an appropriate certificate issued or recognized under the provisions of the Radio Regulations;
- (d) to demonstrate the minimum knowledge, understanding and proficiency required for certification listed in column 2 of the table set out in Part 10 of Schedule 1.

(8) A person shall provide evidence of achieving 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 the table set out in Part 10 of Schedule 1.

(9) A person may make an application for a certificate as master on a ship of less than 500 GT that is engaged in near-coastal voyages, if the person provides evidence of knowledge and ability to carry out all the duties of such a master.

(10) An application made under this regulation must be accompanied by the fee specified in the Shipping (Fees) Regulations, Cap. 13.27.

Certification of rating forming part of a navigational watch

34.—(1) Subject to subregulation (2), a person shall not serve as a rating forming part of a navigational watch on a seagoing ship of 500 GT or more unless that person holds a valid certificate of competency.

(2) Subregulation (1) does not apply to a rating under training or a rating whose duties while on watch are of an unskilled nature.

(3) A person who contravenes subregulation (1) commits an offence and is liable on summary conviction to a fine not exceeding ten thousand dollars or to imprisonment for a term not exceeding two years or to both such fine and imprisonment.

(4) A person may make an application for a certificate under subregulation (1) if the person —

- (a) is sixteen years of age;
- (b) completes —
 - (i) an approved seagoing service including six months training and experience, or

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- (ii) a special training, ashore or on board ship, including an approved period of seagoing service of two months; and
- (c) meets the standards of competence under subregulation (6).

(5) The seagoing service, training and experience required by subregulation (4)(b)(i) and (ii) must be associated with navigational watch-keeping functions and involve the performance of duties carried out under the direct supervision of the master, the officer in charge of the navigational watch or a qualified rating.

(6) For the purposes of subregulation (4), the standards of competence to be met by a candidate for certification are —

- (a) to demonstrate the competence to perform the navigation function at the support level, as specified in column 1 of the table set out in Part 11 of Schedule 1;
- (b) to demonstrate the minimum knowledge, understanding and proficiency required of ratings forming part of a navigational watch on a seagoing ship of 500 GT or more listed in column 2 of the table set out in Part 11 of Schedule 1.

(7) A candidate for certification shall provide evidence of achieving 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 the table set out in Part 11 of Schedule 1.

(8) The reference to “practical test” in column 3 of the table set out in Part 11 of Schedule 1 includes approved shore-based training in which the students undergo practical testing.

Division 2
Engine department

Certification of officer in charge of an engineering watch in a manned engine-room or a designated duty engineer in a periodically unmanned engine-room

35.—(1) A person shall not serve as an officer in charge of an engineering watch in a manned engine-room or a designated duty engineer officer in a periodically unmanned engine-room on a seagoing

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ship powered by main propulsion machinery of 750 kW propulsion power or more unless that person holds a valid certificate issued under these Regulations.

(2) A person who contravenes subregulation (1) commits an offence and is liable on summary conviction to a fine not exceeding ten thousand dollars or to imprisonment for a term not exceeding two years or to both such fine and imprisonment.

(3) A person may make an application for a certificate under subregulation (1) if the person —

- (a) is eighteen years of age;
- (b) completes six months seagoing service in the engine department in accordance with these Regulations; and
- (c) completes approved education and training of two and a half years which includes on-board training documented in an approved training record book and meets the standards of competence specified under subregulation (5).

(4) The education and training required by subregulation (3)(c) includes training in mechanical and electrical workshop skills relevant to the duties of an engineer officer.

(5) For the purposes of subregulation (3)(b), the standards of competence to be met by a candidate for certification are —

- (a) to demonstrate ability to undertake, at the operational level, the tasks, duties and responsibilities listed in column 1 of the table set out in Part 12 of Schedule 1;
- (b) to demonstrate the minimum knowledge, understanding and proficiency required for certification listed in column 2 of the table set out in Part 12 of Schedule 1.

(6) In the case of candidates for certification for service in ships in which steam boilers do not form part of their machinery, the Minister or any person authorized by the Minister may omit the relevant requirements of Part 12 of the table set out in Schedule 1.

(7) A candidate for certification shall provide evidence of achieving 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 the table set out in Part 12 of Schedule 1.

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(8) The requirements of this regulation may be varied for an engineer officer of a ship powered by main propulsion machinery of less than 3,000 kW propulsion power engaged on near-coastal voyages, having regard to the effect on the safety of all ships which may be operating in the same waters, and such limitation must be stated on the certificate and in the endorsement.

Certification of chief engineer officer and second engineer officer on a seagoing ship powered by main propulsion machinery of 3,000 kW propulsion power or more

36.—(1) A person shall not serve as a chief engineer officer or second engineer officer on a seagoing ship powered by main propulsion machinery of 3,000 kW propulsion power or more unless that person holds a valid certificate.

(2) A person who contravenes subregulation (1) commits an offence and is liable on summary conviction to a fine not exceeding ten thousand dollars or to imprisonment for a term not exceeding two years or to both such fine and imprisonment.

(3) A person may make an application for a certificate under subregulation (1) if the person —

(a) meets the requirements for certification as an officer in charge of an engineering watch and —

(i) in the case of an application as a second engineer officer, shall have one year's approved seagoing service as assistant engineer officer or engineer officer, and

(ii) in the case of an application as a chief engineer officer, shall have three years approved seagoing service of which one year is served as an engineer officer in a position of responsibility while qualified to serve as second engineer officer; and

(b) completes approved education and training and meets the standards of competence specified under subregulation (4).

(4) For the purposes of subregulation (3)(b), the standard of competence to be met by a candidate for certification are —

(a) to demonstrate ability to undertake, at the management level, the tasks, duties and responsibilities listed in column 1 of the table set out in Part 13 of Schedule 1;

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- (b) to possess the minimum knowledge, understanding and proficiency listed in column 2 of the table set out in Part 13 of Schedule 1.

(5) A candidate for certification shall provide evidence of achieving 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 the table set out in Part 13 of Schedule 1.

Certification of chief engineer officer and second engineer officer on a seagoing ship powered by main propulsion machinery of between 750 kW and 3,000 kW propulsion power

37.—(1) A person shall not serve as a chief engineer officer and a second engineer officer on a seagoing ship powered by main propulsion machinery of between 750 kW and 3,000 kW propulsion power unless that person holds a valid certificate.

(2) A person who contravenes subregulation (1) commits an offence and is liable on summary conviction to a fine not exceeding ten thousand dollars or to imprisonment for a term not exceeding one year or to both such fine and imprisonment.

(3) A person may make an application for a certificate under subregulation (1) if the person —

- (a) meets the requirements for certification as an officer in charge of an engineering watch —
 - (i) in the case of certification as a second engineer officer, has a year approved seagoing service as an assistant engineer officer or an engineer officer,
 - (ii) in the case of certification as a chief engineer officer, has two years approved seagoing service of which one year shall be served while qualified to serve as a second engineer officer; and
- (b) completes approved education and training and meets the standards of competence specified under subregulation (5).

(4) An engineer officer who is qualified to serve as a second engineer officer on a ship powered by main propulsion machinery of 3,000 kW propulsion power or more, may serve as a chief engineer officer on a ship powered by main propulsion machinery of less than

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3,000 kW propulsion power, where one year's approved seagoing service is served as an engineer officer in a position of responsibility and the certificate is so endorsed.

(5) For the purposes of subregulation (3)(b), the standards of competence to be met by a candidate for certification are —

- (a) to demonstrate ability to undertake, at management level, the tasks, duties and responsibilities listed in column 1 of the table set out in Part 13 of Schedule 1;
- (b) to possess the minimum knowledge, understanding and proficiency required for certification listed in column 2 of the table set out in Part 13 of Schedule 1.

(6) The requirements under subregulation (5)(a) and (b) may be varied for officers of a ship engaged in near-coastal voyages, as considered necessary, having regard to the effect on the safety of all ships which may be operating in the same waters.

(7) A candidate for certification shall provide evidence of achieving 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 the table set out in Part 13 of Schedule 1.

Certification of rating forming part of a watch in a manned engine-room or designated to perform duties in a periodically unmanned engine-room

38.—(1) A person shall not serve as a rating forming part of a watch in a manned engine-room 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 a rating under training and a rating whose duties are of an unskilled nature, unless that person holds a valid certificate.

(2) A person who contravenes subregulation (1) commits an offence and is liable on summary conviction to a fine not exceeding ten thousand dollars or to imprisonment for a term not exceeding two years or to both such fine and imprisonment.

(3) A person may make an application for a certificate under subregulation (1) if the person —

- (a) is sixteen years of age;

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- (b) completes —
 - (i) an approved seagoing service, including, six months training and experience, or
 - (ii) a special training, ashore or on board ship, including an approved period of seagoing service of two months; and
- (c) meets the standards of competence specified under subregulation (5).

(4) The seagoing service, training and experience required by subregulation (3)(b)(i) and (ii) must be associated with engine-room watchkeeping functions and involve the performance of duties carried out under the direct supervision of a qualified engineer officer or a qualified rating.

(5) For the purposes of subregulation (3)(c), the standards of competence to be met by a candidate for certification are —

- (a) to demonstrate the competence to perform the marine engineering function at the support level, as specified in column 1 of the table set out in Part 14 of Schedule 1;
- (b) to possess the minimum knowledge, understanding and proficiency required of ratings forming part of an engine-room watch that is listed in column 2 of the table set out in Part 14 of Schedule 1.

(6) A candidate for certification shall provide evidence of achieving 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 the table set out in Part 14 of Schedule 1.

(7) The reference to “practical test” in column 3 of the table set out in Part 14 of Schedule 1 includes approved shore-based training in which the student undergoes practical testing.

Certificate of proficiency in survival craft, rescue boats and fast rescue boats

39.—(1) A person shall not serve on a survival craft, rescue boat or fast rescue boat unless that person holds a valid certificate of proficiency in survival craft, rescue boats or fast rescue boats issued under these Regulations.

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(2) A person who contravenes subregulation (1) commits an offence and is liable on summary conviction to a fine not exceeding ten thousand dollars or imprisonment for a term not exceeding two years or to both such fine and imprisonment.

(3) A person may make an application for a certificate under subregulation (1) if the person —

- (a) is eighteen years of age;
- (b) has approved seagoing service of one year, or has attended an approved training course and has approved seagoing service of six months; and
- (c) meets the standards of competence for certificates of proficiency in survival craft and rescue boats other than fast rescue boats specified under subregulation (5).

(4) A candidate for a certificate of proficiency in fast rescue boats must —

- (a) have a certificate of proficiency in survival craft and rescue boats other than fast rescue boats;
- (b) attend an approved training course; and
- (c) meets the standard of competence for certificates of proficiency in survival craft and rescue boats other than fast rescue boats specified under subregulation (5).

(5) For the purposes of subregulation (4)(c), the standards of competence to be met by a candidate for a certificate of proficiency in survival craft and rescue boats other than fast rescue boats are —

- (a) to demonstrate competence to undertake the tasks, duties and responsibilities listed in column 1 of the table set out in Part 15 of Schedule 1;
- (b) the level of knowledge of the subjects listed in column 2 of the table set out in Part 15 of Schedule 1 that is sufficient to enable the candidate to launch and take charge of a survival craft or rescue boat in emergency situations.

(6) A candidate for certification under subregulation (3) shall provide evidence of achieving the required standard of competence within the previous five years through —

- (a) a demonstration of competence to undertake the tasks, duties and responsibilities listed in column 1 of the table

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set out in Part 15 of Schedule 1, in accordance with the methods for demonstrating competence and the criteria for evaluating competence listed in columns 3 and 4 of the table set out in Part 15 of Schedule 1; and

- (b) an examination or continuous assessment as part of an approved training programme covering the material set out in column 2 of the table set out in Part 15 of Schedule 1.

(7) For the purposes of subregulation (4), the standard of competence to be met by a candidate for a certificate of proficiency in fast rescue boats are —

- (a) to demonstrate competence to undertake the tasks, duties and responsibilities listed in column 1 of the table set out in Part 15 of Schedule 1;
- (b) the level of knowledge of the subjects listed in column 2 of Part 15 of Schedule 1 is sufficient to enable the candidate to launch and take charge of a fast rescue boat in emergency situations.

(8) A candidate for certification under subregulation (4) shall provide evidence of achieving the required standard of competence within the previous five years through —

- (a) a demonstration of competence to undertake the tasks, duties and responsibilities listed in column 1 of the table set out in Part 15 of Schedule 1, in accordance with the methods for demonstrating competence and the criteria for evaluating competence listed in columns 3 and 4 of the table set out in Part 15 of Schedule 1; and
- (b) an examination or continuous assessment as part of an approved training programme covering the material set out in column 2 of the table set out in Part 15 of Schedule 1.

*Division 3**Radio-communication and radio personnel***Certificate of global maritime distress and safety system radio for personnel**

40.—(1) A person in charge of or performing radio duties on a ship shall not participate in the global maritime distress and safety system unless that person holds a valid certificate related to the global maritime

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distress and safety system, issued or recognized by the Minister or any person authorized by the Minister under the provisions of the Radio Regulations.

(2) A person who contravenes subregulation (1) commits an offence and is liable to the penalty imposed under the Radio Regulations.

(3) Without prejudice to subregulation (1), a candidate for certification under this regulation for service on a ship which is required by the Safety Convention to have a radio installation must —

- (a) be eighteen years of age; and
- (b) complete approved education and training and meet the standards of competence specified under subregulation (4).

(4) For the purposes of subregulation (3)(b), the standards of competence to be met by a candidate for certification are —

- (a) the minimum knowledge, understanding and proficiency required for certification of global maritime distress and safety system radio personnel that is sufficient for radio personnel to carry out radio duties;
- (b) the knowledge required for obtaining each type of certificate defined in the Radio Regulations is in accordance with those Regulations;
- (c) to demonstrate ability to undertake the tasks, duties and responsibilities listed in column 1 of the table set out in Part 16 of Schedule 1;
- (d) the knowledge, understanding and proficiency for endorsement under these Regulations of certificates issued under the provisions of the Radio Regulations listed in column 2 of the table set out in Part 16 of Schedule 1;
- (e) the level of knowledge of the subjects listed in column 2 of the table set out in Part 16 of Schedule 1 that is sufficient for the candidate to carry out his or her duties.

(5) A candidate shall provide evidence of achieving the required standard of competence through —

- (a) a demonstration of competence to perform the tasks and duties and to assume responsibilities listed in column 1 of the table set out in Part 16 of Schedule 1, in accordance with the methods for demonstrating competence and the

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criteria for evaluating competence listed in columns 3 and 4 of the table set out in Part 16 of Schedule 1; and

- (b) an examination or continuous assessment as part of an approved course of training based on the material set out in column 2 of the table set out in Part 16 of Schedule 1.

Division 4
High speed craft

Certificate of competence for high speed craft

41.—(1) A person shall not serve as an engineer officer on a high speed craft unless that person holds a valid motor or steam certificate of competence.

(2) A person who contravenes subregulation (1) commits an offence and is liable on summary conviction to a fine of ten thousand dollars or to imprisonment for a term not exceeding two years or to both such fine and imprisonment.

Type rating certificate

42.—(1) A person shall not serve as a deck officer on a seagoing or non-seagoing high speed craft unless that person holds a valid type rating certificate.

(2) A person who contravenes subregulation (1) commits an offence and is liable on summary conviction to a fine of ten thousand dollars or to imprisonment for two years or to both such fine and imprisonment.

Deck rating certificate

43.—(1) A person shall not serve as a rating or other personnel on a high speed craft unless that person holds a deck rating certificate.

(2) A person who contravenes subregulation (1) commits an offence and is liable on summary conviction to a fine not exceeding ten thousand dollars or to imprisonment for a term not exceeding two years or to both such fine and imprisonment.

*Shipping (Manning and Certification) Regulations**Division 5
General***Grant or refusal of certificate**

44.—(1) The Division shall conduct assessments, in order to ascertain competence for certification for all certificates of competence.

(2) The Division shall, once it is duly satisfied that the assessment is properly administered, conducted and evaluated, according to the report of the Board of Examiners —

- (a) officially notify the candidate of the results;
- (b) advise the candidates who were unsuccessful of the reasons why they were unsuccessful; and
- (c) give recommendations to the candidates for retraining or re-sitting the assessment.

Issue of certificate

45.—(1) Certificates for masters, officers or ratings must be issued to candidates who, to the satisfaction of the Minister or any person authorized by the Minister, meet the requirements for service, age, medical fitness, training, qualification and examinations.

(2) A certificate issued under these Regulations is in Form 1 as set out in Schedule 2.

Endorsements

46.—(1) The endorsement required by these Regulations to attest the issue of a certificate shall only be issued if all the requirements of these Regulations have been complied with.

(2) An endorsement —

- (a) may be issued as a separate document;
- (b) must each be assigned a unique number, except that endorsements attesting the issue of a certificate may be assigned the same number as the certificate, that number is unique; and
- (c) expires as soon as the certificate endorsed expires or is withdrawn, suspended or cancelled and, in any case, not more than five years after the date of issue.

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(3) The capacity in which the holder of a certificate is authorized to serve must be identified in the form of an endorsement in terms identical to those used in the applicable safe manning requirements of the Minister or any person authorized by the Minister.

(4) Certificates for masters and officers issued in compliance with this regulation must be endorsed by the Minister or any person authorized by the Minister in Form 2 as specified in Schedule 2.

Revalidation of certificate

47.—(1) A master, officer and radio operator holding a certificate issued or recognized under these Regulations, who is serving at sea or intends to return to sea after a period ashore, shall, in order to continue to qualify for seagoing service, at intervals not exceeding five years —

- (a) meet the standards of medical fitness specified in any other law;
- (b) establish continued professional competence in accordance with these Regulations.

(2) A master, officer and radio operator shall, for continuing seagoing service on board a ship for which special training requirements are internationally agreed upon, complete approved training.

(3) Continued professional competence under subregulation (1)(b) is established by —

- (a) completing an approved seagoing service, performing functions appropriate to the certificate held, for a period of one year in total during the preceding five years;
- (b) having performed functions considered to be equivalent to the seagoing service required under paragraph (a); or
- (c) one of the following —
 - (i) passing an approved test,
 - (ii) completing an approved course, or
 - (iii) completing an approved seagoing service, performing functions appropriate to the certificate held, for a period of three months in a supernumerary capacity, or in a lower officer rank than that for which the certificate held is valid immediately prior to taking up the rank for which it is valid.

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(4) A refresher and updating course shall be approved and include changes in relevant national and international standards with regard to the safety of life at sea and the protection of the marine environment and take account of the standards of competence.

Recognition of certificate

48.—(1) The Minister or any person authorized by the Minister may, when issuing a certificate under these Regulations, accept seagoing service, education and training acquired under the authority of another country, provided the country complies with these Regulations for the issuing of a certificate and ensures that the requirements of these Regulations relating to seagoing service, education, training and competence are complied with.

(2) Where the Minister or any person authorized by the Minister withdraws an endorsement of recognition of certificate for disciplinary reasons, the Minister or any person authorized by the Minister shall inform the country that issued the certificate of the circumstances.

(3) An endorsement of recognition of a certificate is in Form 3 as set out in Schedule 2.

Dispensation

49.—(1) Where the Minister or any person authorized by the Minister is of the opinion that danger to persons, property or the environment would not be caused, the Minister or any person authorized by the Minister may issue a dispensation permitting a specified seafarer to serve in a specified ship for a specified period not exceeding six months in a capacity, other than that of the radio officer or radio telephone operator, except as provided by the Radio Regulations, for which he or she does not hold a valid certificate, provided that the person to whom the dispensation is issued is adequately qualified to fill the vacant post in a safe manner, to the satisfaction of the Minister or any person authorized by the Minister.

(2) Notwithstanding subregulation (1), a dispensation must not be granted to a master or chief engineer officer except in circumstances of *force majeure* and then only for the shortest possible period.

(3) A dispensation granted for a post must be granted only to a person properly certified to fill the post immediately below.

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(4) Where certification of the post below is not required by these Regulations, a dispensation may be issued to a person whose qualification and experience are, in the opinion of the Minister or any person authorized by the Minister, of a clear equivalence to the requirements for the post to be filled, provided that, if such a person holds no valid certificate, he or she is required to pass a test accepted by the Minister or a person authorized by the Minister as demonstrating that such a dispensation may safely be issued and the Minister or any person authorized by the Minister shall ensure that the post in question is filled by the holder of a valid certificate as soon as possible.

(5) The Minister or any person authorised by the Minister shall, as soon as possible after the 1st day of January of each year, send a report to the Secretary-General of the total number of dispensations that have been issued during the year to seagoing ships in respect of each capacity for which a certificate is required, together with the number of seagoing ships above and below 1,600 GT.

Register

- 50.** The Minister or any person authorized by the Minister shall —
- (a) maintain a register of all certificates and endorsements for masters and officers and, as appropriate, ratings, that are issued, expired, revalidated, suspended, cancelled or reported lost or destroyed and of dispensations issued; and
 - (b) make available information on the status of such certificates, endorsements and dispensations and companies which request verification of the authenticity and validity of certificates produced by seafarers seeking recognition of their certificates or employment on board a ship.

**PART III
MANNING**

Responsibility of company, master and others for manning

- 51.**—(1) This regulation applies to a Saint Lucian ship.
- (2) A company shall ensure that —
- (a) a seafarer assigned to any of its ships holds a certificate in respect of any function he or she performs on that ship;

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- (b) a seafarer on any of its ships has training specified in these Regulations in respect of any function that he or she performs on that ship; and
- (c) documentation and data relevant to all seafarers employed on its ships are maintained and readily available for inspection and include, documentation and data on their experience, training, medical fitness and competence in assigned duties.

(3) Nothing under subregulation (2) prohibits the allocation of tasks for training under supervision or in case of *force majeure*.

(4) A company shall provide written instructions to the master of each of its ships setting out the policies and 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 to those duties.

(5) The policies and procedures referred to under subregulation (4) include —

- (a) allocation of a reasonable period of time during which each newly employed seafarer will have an opportunity to become acquainted with —
 - (i) the specific equipment the seafarer will be using or operating, and
 - (ii) ship-specific watchkeeping, safety, environmental protection and emergency procedures and arrangements the seafarer needs to know to perform the assigned duties properly; and
- (b) designation of a knowledgeable crew member who will be responsible for ensuring that an opportunity is provided to each newly employed seafarer to receive essential information in a language the seafarer understands.

(6) In assessing a minimum level of manning required an owner or operator shall take account of the following factors —

- (a) the length and nature of voyage and trading area;
- (b) any special requirements of the trade involved;

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- (c) number, size and type of main propulsion units and auxiliaries;
- (d) size of ship; and
- (e) construction and technical equipment of ship.

(7) In ensuring that personnel do not work more hours than is safe, an owner or operator shall —

- (a) identify the functions to be undertaken on board a ship during a representative voyage;
- (b) identify the skills and experience required to perform the functions;
- (c) identify the functions in normal operations which need to be undertaken concurrently;
- (d) determine the minimum number of personnel required to undertake concurrent operations safely;
- (e) establish working arrangements, working language on a passenger ship, to ensure the master and crew are capable of undertaking concurrent and continuing operations with respect to their skills and training; and
- (f) ensure that the working arrangements allow for sufficient rest periods to avoid fatigue and draw up work schedules accordingly.

(8) An owner or operator may provide the number of certified deck and engineer officers and ratings appropriate to different sizes of ships, tonnages and trading areas specified in the table set out in Schedule 3.

(9) Notwithstanding subregulation (8), the number of ratings required may be determined by the factors under subregulations (6) and (7) and owners and operators shall seek to obtain a good balance between skilled and less skilled and between experienced and less experienced ratings.

(10) A company shall ensure that, in relation to every ship to which these Regulations apply, of twenty-four metres length and above and all passenger ships of any size and any other ships to which these Regulations do not apply, except where there is a voluntary application by the company, and for any ship which the Minister determines, an application is made to the Minister for a safe manning certificate.

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(11) An application under subregulation (10) must be accompanied by a proposal as to the number and grade of personnel the company considers to carry so that the ship would be safely manned if it proceeded to sea on any intended voyage.

Safe manning certificate

52.—(1) The Minister shall issue a safe manning certificate if he or she considers a ship to be safely manned where the crew includes sufficient officers and ratings with appropriate skills and experience to ensure that the following capabilities are available —

- (a) maintenance of a safe bridge watch at sea, which includes general surveillance of the vessel;
- (b) mooring and unmooring a vessel effectively and safely;
- (c) operation and maintenance of effectively all watertight closing arrangements including the ability to mount an effective damage control party;
- (d) operation and, when practicable, maintenance of efficient fire equipment and lifesaving appliances is provided, including the ability to muster and disembark passengers and non-essential personnel;
- (e) management of the safety functions of a vessel at sea, when not under way;
- (f) maintenance of a safe engineering watch at sea and general surveillance of spaces containing main propulsion and auxiliary machinery;
- (g) operation and maintenance of a safe condition in the main propulsion and auxiliary machinery to enable the ship to overcome the foreseeable perils of the voyage;
- (h) maintenance of the safety arrangements and the cleanliness of machinery spaces to minimize the risk of fire;
- (i) provision for medical care on board ship;
- (j) maintenance of a safe radio watch;
- (k) maintenance of the precautions and safeguards necessary to protect the marine environment; and
- (l) maintenance of the safety in all ship operations when in port.

(2) An owner or operator may make an application to the Minister for a safe manning certificate in Form 4 as set out in Schedule 2.

*Shipping (Manning and Certification) Regulations***Keeping of safe manning certificate on board**

53. The master of a ship twenty-four metres in length and above and a passenger ship of any size shall ensure that the ship does not proceed to sea unless there is on board a valid safe manning certificate issued in respect of the ship and the manning of the ship complies with that certificate.

Change in circumstances

54. A company shall after the issue of a safe manning certificate, inform the Minister as soon as any of the circumstances which are pertinent to that safe manning certificate change, for the purpose of enabling the Minister to review the continuing validity of the certificate or approve new proposals from the company.

Manning of survival craft and supervision of high speed craft

55. The company and the master shall ensure that —

- (a) a sufficient number of trained persons are on board for mustering and assisting untrained persons;
- (b) a sufficient number of crew members, who may be deck officers or certified persons, are on board for operating the survival craft, rescue boats and launching arrangements required for abandonment by the total number of persons on board;
- (c) a deck officer or certified person is placed in charge of each survival craft to be used recognizing, however, that the Minister or any person authorized by the Minister, having due regard to the nature of the voyage, the number of persons on board and the characteristics of the craft, may permit a deck officer or certified person practiced in the handling and operating of life rafts to be placed in charge of each life raft or group of life rafts;
- (d) the persons referred to in paragraphs (a) to (c) are equitably distributed among the survival craft;
- (e) the person in charge of a survival craft has a list of the survival craft crew and sees that those crew members are acquainted with their duties; and
- (f) every rescue boat and lifeboat has a person assigned who is capable of operating the engine and carrying out minor adjustments.

**PART IV
WATCHKEEPING**

Fitness for duty

56.—(1) A person who is assigned the duty of an officer in charge of a watch or a rating forming part of a navigational watch must be provided a minimum of ten hours of rest in any twenty-four hour period.

(2) The hours of rest may be divided into no more than two periods, one of which is at least six hours in length.

(3) The requirements for rest periods specified in subregulations (1) and (2) may not be maintained in the case of an emergency, drill or other overriding operational condition.

(4) Notwithstanding subregulations (1) and (2), the minimum period of ten hours may be reduced to six consecutive hours but any such reduction must not extend beyond two days and not less than seventy hours of rest for each seven-day period.

(5) The watch schedule must be posted in a place on board the ship where it is easily accessible.

Watchkeeping arrangement and principles to be observed

57.—(1) A company, master, chief engineer officer and all watchkeeping personnel shall ensure that a safe continuous watch or a watch appropriate to the prevailing circumstances and conditions is maintained in a seagoing ship at all times in accordance with internationally accepted standards.

(2) The master of a ship shall ensure that the watchkeeping arrangement is adequate for maintaining a safe watch, taking into account the prevailing circumstances and conditions and that, under the general direction of the master —

- (a) an officer in charge of the navigational watch is responsible for navigating the ship safely during periods of duty and is physically present on the navigating bridge or in a directly associated location such as the chartroom or bridge control room at all times;
- (b) a radio operator maintains a continuous radio watch on appropriate frequencies during periods of duty;

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- (c) an officer in charge of an engineering watch and under the direction of the chief engineer officer, is immediately available and on call to attend the machinery spaces and, when required, physically present in the machinery space during periods of responsibility; and
- (d) an appropriate and effective watch is 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 organization of such watch 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.

*Division 1**Voyage or route planning***General requirements for voyage and route planning**

58.—(1) The intended voyage must be planned in advance, taking into consideration all pertinent information, and the route planned must be checked before the voyage commences.

(2) 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

59. Prior to each voyage the master of a 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

60. When the route planning is verified taking into consideration all pertinent information, the planned route must be clearly displayed on appropriate charts and be continuously available to the officer in charge

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of the watch, who shall verify each route to be followed prior to using the route during the voyage.

Deviation from planned route

61. Where a decision is made, during voyage, to change the next port of call in the planned route, or if it is necessary for the ship to deviate substantially from the planned route for other reasons, an amended route must be planned prior to deviating substantially from the route originally planned.

Division 2
Watchkeeping at sea

Principles applying to watchkeeping generally

62.—(1) A company, master, chief engineer officer and watchkeeping personnel shall observe principles under this regulation to ensure that a safe watch is maintained at all times.

(2) The master of a ship shall ensure that the watchkeeping arrangement is adequate for maintaining a safe navigational watch.

(3) Under the general direction of the master, the officer of the navigational watch shall navigate the ship safely during periods of duty, particularly when there is a concern to avoid collision and stranding.

(4) The chief engineer officer of a ship shall, in consultation with the master, ensure that the watchkeeping arrangement is adequate to maintain a safe engineering watch.

Protection of marine environment

63. A master, officer and rating 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 requirements.

Division 3
Navigational watch

Principles to be observed in keeping a navigational watch

64. 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 Shipping (Distress Signals and Prevention of Collision) Regulations, Cap. 13.27.

*Shipping (Manning and Certification) Regulations***Look-out**

65.—(1) A proper look-out must be maintained at all times under the Shipping (Distress Signals and Prevention of Collisions) Regulations, Cap. 13.27 and serves 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 a 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 a ship or aircraft in distress, shipwrecked persons, wrecks, debris and other hazards to safe navigation.

(2) A look-out must be able to give full attention to keep a proper look-out and no other duties must be undertaken or assigned which could interfere with that task.

(3) 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 an unobstructed all-round view is provided at the steering position and there is no impairment of night vision or other impediment to keep a proper look-out.

(4) An officer in charge of the navigational watch may be the sole look-out in daylight where, on each such occasion —

- (a) the situation is carefully assessed and it is established without doubt that it is safe to do so;
- (b) full account is taken of all relevant factors, including —
 - (i) the state of the weather,
 - (ii) the visibility,
 - (iii) the traffic density,
 - (iv) the proximity of any danger 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.

(5) In determining that the composition of the navigational watch is adequate to ensure that a proper look-out is continuously

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maintained, the master shall take into account all relevant factors, including —

- (a) the visibility or the state of the weather and sea;
- (b) the traffic density, and other activities occurring in the area in which the vessel is navigating;
- (c) the attention necessary when navigating in or near traffic separation;
- (d) the additional workload caused by the nature of the functions of the ship, immediate operating requirements and anticipated manoeuvres, schemes or other routing measures;
- (e) the fitness for duty of any crew member on call who is assigned as a member of the watch;
- (f) the knowledge of and confidence in the professional competence of the officers and crew of the ship;
- (g) the experience of each officer of the navigational watch, and the familiarity of that officer with the equipment, procedures, and manoeuvring capability of the ship;
- (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 instruments 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 navigational watch from detecting by sight or hearing any external development; and
- (m) any other relevant standard, procedure or guidance relating to a watchkeeping arrangement and fitness for duty which has been adopted by the IMO.

*Shipping (Manning and Certification) Regulations***Navigational watch arrangement**

66. When deciding the composition of the navigational watch on the bridge, which may include appropriately qualified ratings, the following factors must be taken into account —

- (a) at no time must the bridge be left unattended;
- (b) the weather conditions, visibility and whether there is daylight or darkness;
- (c) the proximity of navigational hazards which may make it necessary for the officer in charge of the navigational watch to carry out additional navigational duties;
- (d) the use and operational condition of navigational aids such as electronic chart display and information reform 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 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 the navigational watch

67.—(1) An officer in charge of the navigational watch shall not hand over the navigational watch to a relieving officer if there is reason to believe that the relieving officer is not capable of carrying out the watchkeeping duties effectively, in which case the master shall be notified.

(2) A relieving officer shall ensure that each member of the relieving navigational watch is fully capable of performing his or her duties, particularly with regard to adjusting to night vision and, shall not take over the navigational watch until his or her vision is fully adjusted to the light conditions.

(3) Prior to taking over the navigational watch, a relieving officer shall satisfy himself or herself of the estimated or true position of the ship and confirm the intended track, route, speed, and unmanned

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machinery space controls and shall note any danger to navigation expected to be encountered during the navigational watch.

(4) A relieving officer shall satisfy himself or herself regarding the —

- (a) standing orders and other special instructions of the master relating to navigation of the ship;
- (b) position, route, speed and draught of the ship;
- (c) prevailing and predicted tides, currents, weather, visibility and the effect of these factors upon the route 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 —
 - (i) the operational condition of all navigational and safety equipment being used or likely to be used during the navigational watch,
 - (ii) the errors of gyro-compasses 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 navigational watch, and
 - (v) the possible effects of heel, trim, water density and squat on under-keel clearance.

(5) Where 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 must be deferred until such action is complete.

Performing the navigational watch

68.—(1) An 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, notwithstanding the presence of the master on the bridge, until informed specifically that the master has assumed that responsibility and this is mutually understood; and

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(d) notify the master when in any doubt as to the action that needs to be taken in the interest of safety.

(2) During the navigational watch the route steered, position and speed must be checked at sufficiently frequent intervals, using any available navigational aids necessary, to ensure that the ship follows the planned route.

(3) An 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.

(4) An 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.

(5) An officer of the navigational watch shall make the most effective use of all navigational equipment at his or her disposal.

(6) When using the radar, an officer in charge of the navigational watch shall have regard to the necessity to comply at all times with the provisions on the use of radar under the Shipping (Distress Signals and Prevention of Collisions) Regulations, Cap. 13.27.

(7) In cases of distress, an officer in charge of the navigational watch shall —

- (a) not hesitate to use the helm, engine and sound signalling apparatus;
- (b) give timely notice of intended variations of engine speed where possible; or
- (c) make effective use of unmanned machinery space engine controls provided on the bridge in accordance with the applicable procedures.

(8) An officer of the navigational watch must know the handling characteristics of the ship, including the stopping distance, and must appreciate that other ships may have different handling characteristics.

(9) A proper record shall be kept during the navigational watch of the movements and activities relating to the navigation of the ship.

(10) In a ship with a separate chartroom, an officer on navigational watch may visit the chartroom, when necessary, for a short period for

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the performance of navigational duties, but shall first ensure that it is safe to do so and that a proper look-out is maintained.

(11) Operational tests of shipboard navigational equipment must be carried out at sea as frequently as practicable and as circumstances permit, in particular, before a hazardous condition affecting navigation is expected.

(12) An operational test under subregulation (11) must, whenever appropriate, be recorded and carried out prior to port arrival and departure.

(13) An 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 route;
- (b) the standard compass error is determined at least once during a navigational watch and, when possible, after any major alteration of route; by frequently comparing the standard compass and gyro-compass and by synchronizing the repeaters with the master compass;
- (c) the automatic pilot is tested manually once a navigational watch;
- (d) the navigation and signal lights and other navigational equipment are functioning properly;
- (e) the radio equipment is functioning properly in accordance with these Regulations; and
- (f) the unmanned machinery space controls, alarms and indicators are functioning properly.

(14) An officer in charge of the navigational watch shall keep in mind the necessity to comply at all times with the Safety Convention and the officer in charge 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

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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.

(15) An officer of the navigational watch shall be familiar with the use of all electronic navigational aids carried, including their capabilities and limitations and shall use each of navigational aid when appropriate and shall bear in mind that the echo-sounder is a valuable navigational aid.

(16) An 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 the limitations of the radar.

(17) An 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 bearing in mind that small or poor echoes may escape detection.

(18) Where 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.

(19) An 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 cause concern;
- (c) if difficulty is experienced in maintaining the route;
- (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;

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- (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 as to what decision or measures to take.

(20) Notwithstanding the requirement to notify the master under subregulation (19), the officer in charge of the navigational watch shall not hesitate to take immediate action for the safety of the ship, where circumstances so require.

(21) An officer in charge of the navigational watch shall give watchkeeping personnel all appropriate instructions and information that will ensure safe watchkeeping, including a proper look-out.

*Division 4**Watchkeeping under different conditions and in different areas***Clear weather**

69. If there is clear weather, an officer in charge of the navigational watch shall —

- (a) 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, a tow or a ship at close range;
- (b) take early and positive action in compliance with the Shipping (Distress Signals and Prevention of Collisions) Regulations, Cap. 13.27 and subsequently check that such action has the desired effect;
- (c) whenever possible, carry out radar practice.

Restricted visibility

70.—(1) When restricted visibility is encountered or expected, the first responsibility of the officer in charge of the navigational watch is to comply with the Shipping (Distress Signals and Prevention of Collisions) Regulations, Cap. 13.27 with particular regard to the

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sounding of fog signals, proceeding at a safe speed and having the engines ready for immediate manoeuvre.

(2) Without limiting the generality of subregulation (1), 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.

Hours of darkness

71. A master and an officer in charge of the navigational watch, when arranging look-out duty for hours of darkness, shall have due regard to the bridge equipment and navigational aids available for use and the limitations, procedures and safeguards implemented for the bridge equipment and navigational aids available for use.

Coastal and congested waters

72.—(1) The largest scale chart on board, suitable for the area and corrected with the latest available information, must be used.

(2) Fixes must be taken at frequent intervals and must be carried out by more than one method whenever circumstances allow.

(3) An officer in charge of the navigational watch shall identify all relevant navigation marks.

Navigation with pilot on board

73.—(1) Notwithstanding the duties and obligations of a pilot, his or her presence on board does not relieve the master or officer in charge of the navigational watch from his or her duties and obligations for the safety of the ship.

(2) A master and a pilot shall exchange information regarding navigation procedures, local conditions and the characteristics of the ship.

(3) A master or an officer in charge of the navigational watch shall co-operate closely with a pilot and maintain an accurate check on the position and movement of the ship.

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(4) Where in any doubt as to the actions or intentions of a pilot, an 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

74.—(1) Where the master considers it necessary, a continuous navigational watch shall be maintained at anchor.

(2) While at anchor, the officer in charge of the navigational watch shall —

- (a) determine and plot the position of the ship 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 instructions of the master;
- (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 pollution laws.

*Shipping (Manning and Certification) Regulations**Division 5
Engineering watch***Engineering watch**

75. An officer in charge of the engineering watch is the representative of the chief engineer officer and is responsible —

- (a) primarily, at all times, for the safe and efficient operation and upkeep of machinery affecting the safety of the ship;
- (b) for the inspection, operation and testing, as required, of all machinery and equipment under the responsibility of the engineering watch.

Engineering watch arrangement

76.—(1) The composition of the engineering watch must, 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.

(2) When deciding the composition of the engineering watch, which may include appropriately qualified ratings, the following criteria, must be considered —

- (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 the engineering watch

77.—(1) An officer in charge of the engineering watch shall not hand over the engineering watch to the relieving officer if there is

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reason to believe that the relieving officer is obviously not capable of carrying out the watchkeeping duties effectively, in which case the chief engineer officer shall be notified.

(2) The relieving officer of the engineering watch shall ensure that each member of the relieving engineering watch is capable of performing the watchkeeping duties effectively.

(3) Prior to taking over the engineering watch, a relieving officer shall satisfy himself or herself of the following —

- (a) the standing orders and special instructions of the chief engineer officer relating to the operation of the systems and machinery of the ship;
- (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;
- (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 the equipment that is 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, contaminated or shallow water;
- (j) any special modes of operation dictated by equipment failure or adverse ship conditions;

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- (k) the reports of engine-room ratings relating to assigned duties;
- (l) the availability of firefighting appliances; and
- (m) the state of completion of engine-room log.

Performing the engineering watch

78.—(1) An officer in charge of the engineering watch shall —

- (a) ensure that the established watchkeeping arrangement is maintained and that, under direction, engine-room ratings, if forming part of the engineering watch, assist in the safe and efficient operation of the propulsion machinery and auxiliary equipment;
- (b) continue to be responsible for machinery space operations, notwithstanding 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;
- (c) ensure that the main propulsion unit controls, when in the manual mode of operation, are continuously attended to under stand-by or manoeuvring conditions;
- (d) direct any other member of the engineering watch to disclose any potentially hazardous conditions which may adversely affect the machinery or jeopardize the safety of life or of the ship;
- (e) 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;
- (f) not leave the machinery spaces unsupervised in a manner that would prevent the manual operation of the engine-room plant or throttles;
- (g) take the action necessary to contain the effects of damage resulting from equipment breakdown, fire, flooding, rupture, collision, stranding or other cause;
- (h) co-operate with any engineer in charge of maintenance work during all preventive maintenance, damage control or repairs including —
 - (i) isolating and bypassing machinery to be worked on,

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- (ii) adjusting the remaining plant to function adequately and safely during the maintenance period,
 - (iii) recording, in the engine-room log or other suitable document, the equipment worked on and the personnel involved, the safety steps taken and by whom, for the benefit of relieving officers and for record purposes, and
 - (iv) testing and putting into service, when necessary, the repaired machinery or equipment;
- (i) 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;
 - (j) keep in mind that changes in speed, resulting from machinery malfunction, or any loss of steering, may imperil the safety of the ship and life at sea and the bridge must 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, and such notification, where possible, must 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;
 - (k) notify the chief engineer officer without delay —
 - (i) when engine damage or a malfunction occurs which may endanger the safe operation of the ship,
 - (ii) when any malfunction occurs which, it is considered, may cause damage or breakdown of propulsion machinery, auxiliary machinery or monitoring and governing systems, and
 - (iii) in any emergency or if in any doubt as to what decision or measures to take;
 - (l) give the watch-keeping personnel all appropriate instructions and information which will ensure the keeping of a safe engineering watch, including organising routine machinery upkeep.

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(2) A member of the engineering watch shall be familiar with assigned watchkeeping duties and shall, with respect to the ship he or she is 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 system and be able to distinguish between the various alarms, with special reference to the fire-extinguishing media alarm; and
- (d) the number, location and type of firefighting equipment and damage control gear in the machinery spaces, together with the use and various safety precautions to be observed.

(3) Any machinery not functioning properly, expected to malfunction or requiring special service must be noted along with any action already taken and plans must be made for any further action if required.

(4) 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.

(5) 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.

(6) All bridge orders must be promptly executed, and changes in direction or speed of the main propulsion units must be recorded, except where the size or characteristics of a particular ship make such recording impracticable.

(7) Due attention must be paid to the ongoing maintenance and support of all machinery, including mechanical, electrical, electronic, hydraulic and pneumatic systems, the control apparatus and associated safety equipment, all accommodation service systems equipment and the recording of stores and spare gear usage.

(8) 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.

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(9) An officer in charge of the engineering watch is 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.

(10) 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.

(11) An officer in charge of an engineering watch shall not be assigned or undertake any duties which would interfere with his or her supervisory duties in respect of the main propulsion system and ancillary equipment and must —

- (a) keep the main propulsion plant and auxiliary systems under constant supervision until properly relieved;
- (b) periodically inspect the machinery in his or her charge;
- (c) 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 and required upkeep; and
- (d) perform any other necessary tasks.

(12) Before going off duty, an 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.

(13) Notwithstanding the requirement to notify the chief engineer officer under subregulation (1)(k), the officer in charge of the engineering watch shall not hesitate to take immediate action for the safety of the ship, its machinery and crew where circumstances require.

(14) Detailed repair maintenance involving repairs to electrical, mechanical, hydraulic, pneumatic or applicable electronic equipment throughout the ship must be performed with the cognizance of the officer in charge of the engineering watch and chief engineer officer, and these repairs must be recorded.

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Division 6

*Engineering watchkeeping under different conditions
and in different areas*

Restricted visibility with different conditions and areas

79. An 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 that auxiliary machinery used for manoeuvring is readily available.

Coastal and congested waters with different conditions and areas

- 80.** An officer in charge of the engineering watch shall ensure —
- (a) 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;
 - (b) that an adequate reserve of power is available for steering and other manoeuvring requirements;
 - (c) that emergency steering and other auxiliary equipment is ready for immediate operation.

Ship at anchor with different conditions and areas

81.—(1) At an unsheltered anchorage, the chief engineer officer shall consult with the master regarding whether or not to maintain the same engineering watch.

(2) When a ship is at anchor or at-sea, 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 firefighting systems are readily available.

*Shipping (Manning and Certification) Regulations**Division 7**Principles to be observed in keeping a radio watch***General provision for radio watch**

82. A company, master and radio watchkeeping personnel shall ensure that an adequate safety radio watch is maintained while a ship is at sea and shall take the Radio Regulations into account.

Watch arrangement for radio watch

83. In deciding the arrangements for the radio watch, the master of a seagoing ship shall —

- (a) ensure that the radio watch is maintained in accordance with the relevant provisions of the Radio Regulations and the Safety 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) consider the radio equipment fitted on board and its operational status.

Performing the radio watch

84.—(1) A radio operator performing radio watchkeeping duties shall —

- (a) ensure that the radio watch is maintained on the frequencies specified in the Radio Regulations and the Safety Convention; and
- (b) while on duty, regularly check the operation of the radio equipment and its sources of energy and report to the master any observed failure of this equipment.

(2) The requirements of the Radio Regulations and the Safety Convention on keeping a radiotelegraph or radio log, as appropriate, shall be complied with.

(3) The maintenance of radio records, in compliance with the Radio Regulations and the Safety Convention, is the responsibility of the radio operator designated as having primary responsibility for radio-communications during distress incidents and the following shall be recorded, together with the time it occurs —

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- (a) a summary of distress, urgency and safety radio communications;
- (b) important incidents relating to the radio service.

Division 8

Watchkeeping in port -

General Principles applying to all watchkeeping

General provisions for watchkeeping in port

85.—(1) 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.

(2) 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 arrangement in port

86.—(1) 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.

(2) 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.

(3) Where the master considers it necessary, a qualified officer shall be in charge of the deck watch.

(4) The necessary equipment shall be arranged in a manner that provides for efficient watchkeeping.

(5) 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, and when deciding the

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composition of the engineering watch, which may include appropriate engine-room ratings, consideration may be given to the following —

- (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.

Handing over the deck or engineering watch

87.—(1) An officer in charge of the deck or engineering watch shall not hand over the watch to the relieving officer if he or she has reason to believe that the relieving officer is obviously not capable of carrying out watchkeeping duties effectively, in which case the master or chief engineer shall be notified accordingly.

(2) A relieving officer of the deck or engineering watch shall ensure that each member of the watch is capable of performing the watchkeeping duties effectively.

(3) Where, 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.

Taking over the deck watch

88.—(1) Prior to taking over the deck watch, the officer in charge of the deck watch shall inform the relieving officer of —

- (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 their availability for emergency use;

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- (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 firefighting 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) the procedures for notifying the appropriate authority of any environmental pollution resulting from ship activities; and
- (k) any other circumstances of importance to the safety of the ship, its crew, cargo or protection of the environment from pollution.

(2) A relieving officer, 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 maintained;
- (d) he or she is 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; and
- (e) external conditions or circumstances do not imperil the ship or others.

Taking over the engineering watch in port

89.—(1) Prior to taking over the engineering watch, the officer in charge of the engineering watch shall inform a relieving officer of —

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- (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 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;
- (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) authorized repair personnel on board engaged in engineering activities, their work locations and repair functions, other authorized persons onboard and the required crew;
- (g) any port requirements 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) the procedures for notifying the appropriate authority of environmental pollution resulting from engineering activities; and
- (j) any other circumstance of importance to the safety of the ship, its crew, cargo or the protection of the environment from pollution.

(2) A relieving officer, before assuming charge of the engineering watch, shall satisfy himself or herself that he or she is fully informed by the officer being relieved, as outlined in subregulation (1), and —

- (a) be familiar with existing and potential sources and distribution of power, heat and lighting;
- (b) know the availability and condition of the fuel of the ship, lubricants and all water supplies; and

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- (c) be ready to prepare the ship and its machinery, as far as is possible, for stand-by or emergency conditions as required.

Performing the deck watch in port

90. An officer in charge of the deck watch shall —

- (a) make rounds to inspect the ship at appropriate intervals to ascertain —
 - (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, take measures to ensure each is in normal working condition,
 - (ii) the draught, under-keel 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) that all persons are on board and the location of persons, especially those in remote or enclosed spaces, and
 - (vii) the exhibition and sounding, where appropriate, of lights and signals;
- (b) in bad weather, or on receiving a storm warning, take the necessary measures to protect the ship, persons on board and cargo;
- (c) take every precaution to prevent pollution of the environment by the ship;
- (d) 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 onshore authorities or neighbouring ships;

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- (e) be aware of the ship's stability condition so that, in the event of fire, the onshore firefighting authority may be advised of the approximate quantity of water that can be pumped on board without endangering the ship;
- (f) offer assistance to ships or persons in distress;
- (g) take necessary precautions to prevent accidents or damage when propellers must be turned; and
- (h) enter, in the appropriate log-book, all important events affecting the ship.

Performing the engineering watch in port

91.—(1) An officer 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 the prevention of those conditions in all areas in his or her 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.
- (2) An officer in charge of the engineering watch shall —
- (a) in an emergency, raise the alarm when of the opinion that 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 needs of the deck officer 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;

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- (d) ensure that the necessary precaution is taken to prevent accidents or damage to the various electrical, electronic, hydraulic, pneumatic and mechanical systems of the ship;
- (e) ensure that any important event affecting the operation, adjustment or repair of the machinery of the ship is satisfactorily recorded.

Division 9

Watch in port on ships carrying hazardous cargo

Watch in port on ship carrying hazardous cargo

92.—(1) A master of a ship carrying cargo that is hazardous, whether explosive, flammable, toxic, health-threatening or environment-polluting, shall ensure that safe watchkeeping arrangements are maintained and on ships carrying hazardous cargo in bulk, this is achieved by the ready availability on board of a duly qualified officer, and rating where appropriate, even when the ship is safely moored or safely at anchor in port.

(2) In the case of a ship 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 of any special conditions on board, afloat and ashore.

**PART V
MISCELLANEOUS**

Objectives and quality standards

93.—(1) The Minister or a person authorized by the Minister shall ensure that the education and training objectives and related standards of competence to be achieved are clearly defined and identify the levels of knowledge, understanding and skills appropriate to the examinations and assessments required under these Regulations.

(2) The objectives and related quality standards may be specified separately for different courses and training programmes and shall cover the administration of the certification system.

(3) The field of application of the quality standards shall cover the administration of the certification system, all training courses and programmes, examinations and assessments carried out by or under the

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authority of the Minister or a person authorized by the Minister and the qualifications and experience required of instructors and assessors, having regard to the policies, systems, controls and internal quality assurance reviews established to ensure achievement of the defined objectives.

(4) The Minister or a person authorized by the Minister shall ensure that an independent evaluation of the knowledge, understanding, skills and competence acquisition and assessment activities, and of the administration of the certification system, is conducted at intervals of not more than five years in order to verify that —

- (a) all internal management control and monitoring measures and follow-up actions comply with planned arrangements and documented procedures and are effective in ensuring achievement of the defined objectives;
- (b) the results of each independent evaluation are documented and brought to the attention of those responsible for the area evaluated; and
- (c) timely action is taken to correct deficiencies.

(5) The report of the independent evaluation required by this regulation must include the terms of reference for the evaluation and the qualifications and experience of the evaluators.

Responsibility of a company for compliance with these Regulations

94.—(1) A company shall ensure that —

- (a) each seafarer assigned to any of its ships holds an appropriate certificate in accordance with the provisions of these Regulations and as established by the Minister or a person authorized by the Minister;
- (b) its ships are manned in compliance with the applicable safe manning requirements of the Minister or a person authorized by the Minister;
- (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 familiarized with their specific duties and with all ship

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arrangements, installations, equipment, procedures and ship characteristics that are relevant to their routine or emergency duties; and

- (e) the complement of the ship 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.

(2) A company, master and crew member shall ensure that the obligations set out in this regulation are given full and complete effect and that such other measure 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.

(3) A company shall provide written instructions to the master of each ship to which these Regulations apply, setting forth the policies and the procedures to be followed to ensure that a seafarer who is newly employed on board the ship is given a reasonable opportunity to become familiar with the shipboard equipment, operating procedures and other arrangements needed for the proper performance of his or her duties, before being assigned to those duties, and such policies and procedures must include —

- (a) the allocation of a reasonable period of time during which each newly employed seafarer will have an opportunity to become acquainted with —
 - (i) the specific equipment the seafarer will be using or operating, and
 - (ii) ship-specific watchkeeping, safety, environmental protection and emergency procedures and arrangements the seafarer needs to know to perform the assigned duties properly; and
- (b) the designation of a knowledgeable crew member who will be responsible for ensuring that an opportunity is provided to each newly employed seafarer to receive essential information in a language the seafarer understands.

*Shipping (Manning and Certification) Regulations***SCHEDULE 1****PART 1**

(Regulation 23(14))

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
Organize shipboard emergency procedures	<p>Knowledge of:</p> <p>.1 the general design and layout of the ship;</p> <p>.2 safety regulations;</p> <p>.3 emergency plans and procedures;</p> <p>The importance of the principles for the development of ship-specific emergency procedures including:</p> <p>.1 the need for pre-planning and drills of shipboard emergency procedures;</p> <p>.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.</p>	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
Optimize the use of resources	<p>Ability to optimize the use of resources, taking into account:</p> <p>.1 the possibility that resources available in an emergency may be limited;</p> <p>.2 the need to make full use of personnel and equipment immediately available and, if necessary, to improvise;</p>	Assessment of evidence obtained from approved training, practical demonstration and shipboard training and drills of emergency procedures	<p>Contingency plans optimize 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>

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Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	Ability to organize realistic drills to maintain a state of readiness, taking into 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></p> <p>Ability to lead and direct others in emergency situations, including the need:</p> <p>.1 to set an example during emergency situations;</p> <p>.2 to focus decision making, given the need to act quickly in an emergency;</p> <p>.3 to motivate, encourage and reassure passengers and other personnel</p> <p><i>Stress handling</i></p> <p>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 contribute to maintaining order and control Actions of crew members.</p>

Shipping (Manning and Certification) Regulations

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 behavior and responses</i></p> <p>Ability to control passengers and other personnel in emergency situations, including:</p> <p>.1 awareness of the general reaction patterns of passengers in emergency situations, including the possibility that:</p> <p>.1.1 generally it takes some time before people accept the fact that there is an emergency situation;</p> <p>.1.2 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;</p> <p>.2 awareness that passengers and other personnel may, <i>inter alia</i>:</p> <p>.2.1 start looking for relatives, friends or their belonging as a first reaction when something goes wrong;</p> <p>.2.2 seek safety in their cabins or in other places on board where they think that they can escape danger,</p> <p>.2.3 tend to move to the upper side when the ship is listing;</p> <p>.3 appreciation of the possible problem of panic resulting from separating families</p>	Assessment of evidence obtained from approved training, practical demonstration and shipboard training and drills of emergency procedures.	Actions of crew members contribute to maintaining order and control

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Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Establish and maintain effective communication	<p>Ability to establish and maintain effective communications, including:</p> <ul 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> <ul 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 	Assessment of evidence obtained from approved training, exercises and practical demonstration.	<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>

*Shipping (Manning and Certification) Regulations***PART 2**

(Regulation 25(1)(a)(i))

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 collision, 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> <p>.1 value of training and drills;</p> <p>.2 personal protective clothing and equipment;</p> <p>.3 need to be ready for any emergency;</p>	<p>Assessment of evidence obtained from approved instruction or during attendance at an approved course of approved in-service experience and examination, including practical demonstration of competence to:</p> <p>.1 don a lifejacket;</p> <p>.2 don and use an immersion suit;</p> <p>.3 safely jump from a height into the water;</p> <p>.4 right an inverted life raft while wearing a lifejacket;</p> <p>.5 swim while wearing a lifejacket;</p> <p>.6 keep afloat without a lifejacket</p> <p>.7 board a survival craft from ship and water while wearing a life jacket;</p> <p>.8 take initial actions on boarding survival craft to enhance chance of survival;</p>	<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 minimize potential dangers and threats to survival</p> <p>Method of boarding survival craft is</p>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	.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.	.9 stream a drogue or sea-anchor; .10 operate survival, 1 craft equipment; .11 operate location devices, including radio equipment.	appropriate and avoids dangers to other survivors Initial actions after leaving the ship and procedures and actions in water minimize threats to survival.

PART 3

(Regulation 25(1)(a)(ii))

Fire Prevention and Firefighting

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Minimize the risk of fire and maintain a state of readiness to respond to emergency situations involving fire	Shipboard firefighting organization Location of firefighting appliances and emergency escape routes The elements of fire and explosion (the fire triangle) Types and sources of ignition Flammable materials, fire hazards and spread of fire The need for constant vigilance Actions to be taken on board ship Fire and smoke detection and automatic alarm systems Classification of fire and applicable extinguishing agents	Assessment of evidence obtained from approved instruction or attendance at an approved course	Initial actions on becoming aware of an emergency conform with accepted practices and procedures Action taken on identifying muster signals is appropriate to the indicated emergency and complies with established procedures

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Fight and extinguish fires	<p>Firefighting equipment and its location on board</p> <p>Instruction in:</p> <ul style="list-style-type: none"> .1 fixed installations; .2 firefighter's outfits; .3 personal equipment; .4 firefighting appliances and equipment; .5 firefighting methods; .6 firefighting agents; .7 firefighting procedures; .8 use of breathing apparatus for fighting fires and effecting rescues 	<p>Assessment of evidence obtained from approved instruction or during attendance at an approved course, including practical demonstration in spaces which provide truly realistic training conditions (e.g. simulated shipboard conditions) and, whenever possible and practical, in darkness, of the ability to:</p> <ul 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 .5 extinguish fires with foam, powder or any other suitable chemical agent; .6 enter and pass through, with life-line but without breathing apparatus, a compartment into which high-expansion foam has been injected; 	<p>Clothing and equipment are appropriate to the nature of the firefighting operations</p> <p>The timing and sequence of individual actions are appropriate to the prevailing circumstances and conditions</p> <p>Extinguishment of fire is achieved using appropriate procedures, techniques and firefighting agents</p> <p>Breathing apparatus procedures and techniques comply with accepted practices and procedures</p>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
		<p>.7 fight fire in smoke-filled enclosed spaces wearing self-contained breathing apparatus;</p> <p>.8 extinguish fire with water fog or any other suitable firefighting agent in an accommodation room or simulated engine-room with fire and heavy smoke;</p> <p>.9 extinguish oil fire with fog applicator and spray nozzles, dry chemical powder or foam applicators;</p> <p>.10 effect a rescue in a smoke-filled space wearing breathing apparatus</p>	

*Shipping (Manning and Certification) Regulations***PART 4**

(Regulation 25(1)(a)(iii))

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> <p>.1 position casualty;</p> <p>techniques;</p> <p>.3 control bleeding;</p> <p>.4 apply appropriate measures of basic shock management;</p> <p>.5 apply appropriate measures in event of burns and scalds, including accidents caused by electric current;</p> <p>.6 rescue and transport a casualty;</p> <p>.7 improvise bandages and use materials in emergency kit</p> <p>.2 apply resuscitation</p>	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 minimized at all times</p>

*Shipping (Manning and Certification) Regulations***PART 5**

(Regulation 25(1)(a)(iv))

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>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Take precautions to prevent pollution of the marine environment	Basic knowledge of the impact of shipping on the marine environment and the effects of operational or accidental pollution on it Basic environmental protection procedures Basic knowledge of complexity and diversity of the marine environment	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Organizational procedures designed to safeguard the marine environment are observed at all times
Observe safe working practices	Importance of adhering to safe working practices at all times Safety and protective devices available to protect against potential hazards aboard ship Precautions to be taken prior to entering enclosed spaces Familiarization with international measures concerning accident prevention and occupational health	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
Contribute to effective communications on board	Understand the principles of, and barriers to, effective communication between individuals and teams within the ship Ability to establish and maintain effective communications	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Communications are clear and effective at all times

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Contribute to effective human relationships on board ship	Importance of maintaining good human and working relationships aboard ship Basic teamworking principles and practice, including conflict resolution Social responsibilities; employment conditions; individual rights and obligations; dangers of drug and alcohol abuse	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Expected standards of work and behavior are observed at all times
Understand and take necessary actions to control fatigue	Importance of obtaining the necessary rest Effects of sleep, schedules, and the circadian rhythm on fatigue Effects of physical stressors on seafarers Effects of environmental stressors in and outside the ship and their impact on seafarers Effects of schedule changes on seafarer fatigue	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Communications are clear and effective at all times

*Shipping (Manning and Certification) Regulations***PART 6**

(Regulation 27)

Advanced Firefighting

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Control firefighting operations aboard ships	<p>Firefighting procedures at sea and in port with particular emphasis on organization, 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 firefighting operations</p> <p>Ventilation control, including smoke extraction</p> <p>Control of fuel and electrical systems</p> <p>Firefighting 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>Management and control of injured persons</p> <p>Procedures for co-ordination with shore-based firefighters</p>	<p>Practical exercises and instruction conducted under approved and truly assessment of the 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 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 minimize 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>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Organize and train fire parties	Preparation of contingency plans Composition and allocation of personnel to fire parties Strategies and tactics for control of fires in various parts of the ship	Practical exercises and instruction conducted under approved and truly realistic training conditions, e.g. simulated shipboard conditions	Composition and organization 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	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 Requirements for statutory and classification surveys	Practical exercise 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

*Shipping (Manning and Certification) Regulations***PART 7**

(Regulation 28)

Medical First Aid and Medical Care

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	First-aid kit Body structure and function Toxicological hazards on board, including use of the Medical First Aid Guide for use of . Accidents Involving Dangerous Goods (MFAG) or its national equivalent Examination of casualty or patient Spinal injuries. Burns, scalds and effects of heat and cold Fractures, dislocations and muscular injuries Medical care of rescued persons Radio medical advice Pharmacology Sterilization Cardiac arrest, drowning and asphyxia	Assessment of evidence obtained from practical instruction	The identification of probable cause nature and extent of injuries is prompt, complete and conforms to current first-aid practice Risk of harm to self and others is minimized at all times Treatment of injuries and the patient's condition is appropriate and conforms to recognized first-aid practice and international guidelines

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Provide medical care to the sick and injured while they remain on board</p>	<p>Care of casualty involving:</p> <ul 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> <ul style="list-style-type: none"> .1 general principles; .2 nursing care <p>Diseases, including:</p> <ul 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>Gynaecology, pregnancy and childbirth</p> <p>Medical care of rescued persons</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 recognized</p>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	Death at sea Hygiene Disease prevention, including: .1 disinfection, disinfestations, de-ratting; .2 vaccinations keeping records and copies of applicable regulations: 1 keeping medical records .2 international and national maritime medical regulations		
Participate in co-ordinated schemes for medical assistance to ships	External assistance, including: .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		Clinical examination procedures are complete and comply with instructions received The method and preparation for evacuation is in accordance with recognized procedures and is designed to maximize the welfare of the patient Procedures for seeking radio medical advice conform to established practice and recommendations

*Shipping (Manning and Certification) Regulations***PART 8**

(Regulation 30)

Standard of Competence for Officers in Charge of a Navigational Watch on Seagoing Ship of 500 GT or more**Function: Navigation at the Operational Level**

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods of demonstrating competence	Criteria for evaluating competence
Plan and conduct a passage and determine position	<p><i>Celestial navigation</i></p> <p>Ability to use celestial bodies to determine the ship's position</p> <p><i>Terrestrial and coastal navigation</i></p> <p>Ability to determine the ship's position by use of:</p> <p>.1 landmarks;</p> <p>.2 aids to navigation, including lighthouses, beacons and buoys;</p> <p>.3 dead reckoning, taking into account winds, tides, currents and estimated speed</p> <p>Thorough knowledge of an ability to use nautical charts and publications, such as sailing directions, tide tables, notices to mariners, radio navigational warnings and ships' routing information.</p> <p><i>Electronic systems of position fixing and navigation</i></p> <p>Ability to determine the ship's position by use of electronic navigational aids</p> <p><i>Echo-sounders</i></p> <p>Ability to operate the equipment and apply the information correctly</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 training ship experience;</p> <p>.3 approved simulator training, where appropriate;</p> <p>.4 approved laboratory equipment training using: chart catalogues, charts, nautical publications, radio navigational warnings, sextant, azimuth mirror, electronic navigation equipment, echo-sounding equipment, compass</p>	<p>The information obtained from nautical charts and publications is relevant, interpreted correctly and properly applied.</p> <p>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>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods of demonstrating competence	Criteria for evaluating competence
	<p><i>Compass - magnetic and gyro</i></p> <p>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></p> <p>Knowledge of steering control systems, operational procedures and change-over from manual to automatic control and vice versa. Adjustment of controls for optimum performance</p> <p><i>Meteorology</i></p> <p>Ability to use and interpret information obtained from ship borne 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>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 magnetical 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> <p>Measurements and observations of weather conditions are accurate and appropriate to the passage</p> <p>Meteorological information is correctly interpreted and applied</p>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods of demonstrating competence	Criteria for evaluating competence
Maintain a safe navigational watch	<p><i>Watch keeping</i></p> <p>Thorough knowledge of the content, application and intent of the Shipping (Distress Signals and Prevention of Collisions) Regulations</p> <p>Thorough knowledge of the principles to be observed in keeping a navigational watch</p> <p>The use of routing in accordance with the General Provisions on Ships' Routing</p> <p>The use of information from navigational equipment for maintaining a safe navigational watch</p> <p>Knowledge of blind pilotage techniques</p> <p>The use of reporting in accordance with the General Principles for Ship Reporting Systems and with VTS procedures</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 training ship experience;</p> <p>.3 approved simulator training, where appropriate;</p> <p>.4 approved laboratory equipment training</p>	<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 Shipping (Distress Signals and Prevention of Collisions) Regulations</p> <p>The frequency and extent of monitoring of traffic, the ship and the environment conform with accepted principles and procedures</p> <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 when the master is on the bridge and while under pilotage</p>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods of demonstrating competence	Criteria for evaluating competence
Maintain a safe navigational watch	<p><i>Bridge resource management</i></p> <p>Knowledge of bridge resource management principles, including:</p> <ul style="list-style-type: none"> .1 allocation, assignment, and prioritization of resources .2 effective communication .3 assertiveness and leadership .4 obtaining and maintaining situational awareness .5 consideration of team experience 	<p>Assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> .1 approved training .2 approved in-service experience .3 approved simulator training 	<p>Resources are allocated and assigned as needed in correct priority to perform necessary tasks</p> <p>Communication is clearly and unambiguously given and received</p> <p>Questionable decisions or actions result in appropriate challenge and response</p> <p>Effective leadership behaviours are identified</p> <p>Team members share accurate understanding of current and predicted vessel state, navigation path, and external environment</p>
<p>Use of radar and automatic radar plotting aids 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</p>	<p><i>Radar navigation</i></p> <p>Knowledge of the fundamentals of radar and ARPA</p> <p>Ability to operate and to interpret and analyse information obtained from radar, including the following:</p> <p>Performance, including:</p> <ul style="list-style-type: none"> .1 factors affecting performance and accuracy .2 setting up and maintaining displays .3 detection of 	<p>Assessment of evidence obtained from approved radar simulator and ARPA simulator training with 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>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods of demonstrating competence	Criteria for evaluating competence
<p>The endorsement issued to the seafarer concerned</p>	<p>meeting overtaking ships</p> <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 automatic radar plotting aid, including:</p> <p>.1 system performance and accuracy, tracking capabilities and limitations, and processing delays;</p> <p>.2 use of operational warnings and system tests</p> <p>.3 methods of target acquisition and their limitations</p> <p>.4 true and relative vectors, graphic representation of target information and danger areas deriving and analyzing information, critical echoes, exclusion areas and trial manoeuvres</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 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 communication is clear, concise and acknowledged at all times in a seafarer like manner</p> <p>Manoeuvring signals are made at the appropriate time and are in accordance with the International Regulations for Preventing Collisions at Sea</p>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods of demonstrating competence	Criteria for evaluating competence
<p>Use of ECDIS to maintain the safety of navigation</p> <p>Note: Training and assessment in the use of ECDIS is not required for those who serve exclusively on ships not fitted with ECDIS</p> <p>These limitations shall be reflected in the endorsements issued to the seafarer concerned</p>	<p><i>Navigation using ECDIS</i></p> <p>Knowledge of the capability and limitations of ECDIS operations, including:</p> <p>.1 a thorough understanding of Electronic Navigational Chart (ENC) data, data accuracy, presentation rules, display options and other chart data formats</p> <p>.2 the dangers of over-relevance.</p> <p>3 familiarity with the functions of ECDIS required by performance standards in force</p> <p>Proficiency in operation, interpretation, and analysis of information obtained from ECDIS, including:</p> <p>.1 use of functions that are integrated with other navigation systems in various installations, including proper functioning and adjustment to desired settings</p> <p>.2 safe monitoring and adjustment of information, including open position, sea area display, mode and orientation, chart data displayed, route monitoring, user-created information layers, contacts (when interfaced with AIS or radar tracking) and radar overlay functions (when interfaced)</p> <p>.3 confirmation of vessel position by alternative means</p> <p>.4 efficient use of settings to ensure conformance to operational procedures, including alarm parameters</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved training ship experience</p> <p>.2 approved EDCIS simulator training</p>	<p>Monitors information on ECDIS in a manner that contributes to safe navigation</p> <p>Information obtained from ECDIS (including radar overlay or radar tracking functions, when fitted) is correctly interpreted and analysed, taking into account the limitations of the equipment, all connected sensors (including radar and AIS where interfaced), and prevailing circumstances and conditions</p> <p>Safety of navigation is maintained through adjustments made to the ship's course and speed through ECDIS-controlled track-keeping functions (when fitted)</p> <p>Communication is clear, concise and acknowledged at all times in a seamanlike manner</p>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods of demonstrating competence	Criteria for evaluating competence
	<p>for anti-grounding, proximity to contacts and special areas, completeness of chart data and chart update status, and backup arrangements</p> <p>.5 adjustment of settings and values to suit the present conditions</p> <p>.6 situational awareness while using ECDIS including safe water and proximity of hazards, set and drift, chart data and scale selection, suitability of route, contact detection and management, and integrity of sensors</p>		
Respond to emergencies	<p><i>Emergency procedures</i></p> <p>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>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience;</p> <p>.2 approved training ship experience;</p> <p>.3 approved simulator</p>	<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</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>training, where appropriate;</p> <p>.4 practical training</p>	<p>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></p> <p>Knowledge of the contents of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual</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 recognized</p> <p>Contingency plans and instructions in standing orders are implemented and complied with</p>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods of demonstrating competence	Criteria for evaluating competence
Use the IMO Standard Marine Communication Phrases and use English in written and oral form	<p><i>English language</i></p> <p>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, coast stations and VTS Centres to perform the officer's duties also with a multilingual crew, including the ability to use and understand the IMO Standard Marine Navigational Vocabulary as replaced by the IMO Standard Marine Communication Phrases (IMO SMCP)</p>	Examination and assessment of evidence obtained from practical instruction	English language nautical publications and messages relevant to the safety of the ship are correctly interpreted or drafted Communications are clear and understood
Transmit and receive information by visual signalling	<p><i>Visual Signalling</i></p> <p>Ability to use the International Code of Signals</p> <p>Ability to transmit and receive, by morse light, distress signal SOS as specified in Annex IV of the International Regulations for Preventing Collisions at Sea, 1972, as amended, and appendix 1 of the International Code of Signals, and visual signalling of single-letter signals as also specified in the International Code of signals</p>	Assessment of evidence obtained from practical instruction or simulation	Communications within the operator's area of responsibility are consistently successful

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Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods of demonstrating competence	Criteria for evaluating competence
Manoeuvre the ship	<p><i>Ship manoeuvring and handling</i></p> <p>Knowledge of:</p> <p>.1 the effects of deadweight, draught, trim, speed and under-keel clearance on turning circles and stopping distances</p> <p>.2 the effects of wind and current on ship handling</p> <p>.3 manoeuvres and procedures for the rescue of person overboard</p> <p>.4 squat, shallow-water and similar effects</p> <p>.5 proper procedures for anchoring and mooring</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 training ship experience;</p> <p>.3 approved simulator training, where appropriate;</p> <p>.4 approved training on a manned scale ship model where appropriate</p>	<p>Safe operating limits of ship 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>

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Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods of demonstrating competence	Criteria for evaluating competence
Function: Cargo Handling and Stowage at the Operational Level			
Monitor the loading, stowage, securing care during the voyage and the unloading of cargoes	<p><i>Cargo handling, stowage and securing</i></p> <p>Knowledge of the effect of cargo, including heavy lifts, on the seaworthiness and stability of the ship</p> <p>Knowledge of safe handling, stowage and securing of cargoes including dangerous, hazardous and harmful 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>	<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 training ship experience;</p> <p>.3 approved simulator training, where appropriate</p>	<p>Cargo operations are carried out in accordance with the cargo plan or other documents and established safety rules or regulations, equipment operating instructions and shipboard stowage limitations</p> <p>The handling of dangerous, hazardous and harmful cargoes complies with international regulations and recognized 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> <p>.1 loading and unloading operations;</p> <p>.2 corrosion;</p> <p>.3 severe weather conditions</p> <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</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 training-ship experience;</p> <p>.3 approved simulator training where appropriate</p>	<p>The inspections are carried out in accordance with laid-down procedures and defects and damage 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</p>

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Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods of demonstrating competence	Criteria for evaluating competence
	<p>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>Ability to explain how to ensure reliable detection of defects and damages</p> <p>Understanding of the purpose of the “enhanced survey programme”</p>		normal and defective or damaged parts of the ship
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 of 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</p> <p>Anti-pollution procedures and all associated equipment</p> <p>Importance of proactive measures to protect the Marine environment</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 training-ship experience</p> <p>3. approved training</p>	<p>Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed</p> <p>Actions to ensure that a positive environmental reputation is maintained</p>

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Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods of demonstrating competence	Criteria for evaluating competence
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><i>Ship construction</i></p> <p>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> <p>.1 approved in-service experience;</p> <p>.2 approved training ship experience;</p> <p>.3 approved simulator training, where appropriate;</p> <p>.4 approved laboratory equipment training</p>	<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 firefighting appliances</i></p> <p>Ability to organize fire drills</p> <p>Knowledge of classes and chemistry of fire</p> <p>Knowledge of firefighting systems</p> <p>Knowledge of action to be taken in the event of fire, including fires involving oil systems</p>	<p>Assessment of evidence obtained from approved firefighting training and experience as set out in Part 6</p>	<p>The type and scale of the problem is promptly identified and initial actions conform with the emergency procedure and contingency plans</p> <p>The order of the ship</p> <p>Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly 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>

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Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods of demonstrating competence	Criteria for evaluating competence
Operate life-saving appliances	<i>Lifesaving</i> Ability to organize abandon ship drills and knowledge of the operation of survival craft and rescue boats, their launching appliances and arrangements, and their equipment, including radio life-saving appliances, satellite EPIRBs, SARTs, immersion suits and thermal protective aids	Assessment of evidence obtained from approved training and experience as set out in Part 15, paragraphs 1 to 4	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	<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 Part 7, paragraphs 1 to 3	The identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimizes immediate threat to life
Monitor compliance with legislative requirements	Basic working knowledge of the relevant IMO conventions 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

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Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods of demonstrating competence	Criteria for evaluating competence
Application of leadership and teamworking skills	<p>Working knowledge of shipboard personnel management and training</p> <p>A knowledge of related international maritime conventions and recommendations, and national legislation</p> <p>Ability to apply task and workload management, including:</p> <ul style="list-style-type: none"> .1 planning and co-ordination .2 personnel assignment .3 time and resource constraints .4 prioritization <p>Knowledge and ability to apply effective resource management:</p> <ul style="list-style-type: none"> .1 allocation, assignment, and prioritization of resources .2 effective communication onboard and ashore .3 decisions reflect consideration of team experiences .4 assertiveness and leadership, including motivation .5 obtaining and maintaining situational awareness <p>Knowledge and ability to apply decision-making techniques:</p> <ul style="list-style-type: none"> .1 situation and risk assessment .2 identify and consider general options 	<p>Assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> .1 approved training .2 approved in-service experience .3 practical demonstration 	<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 assessment of current competence and capabilities and operational requirements</p> <p>Operations are demonstrated to be in accordance with applicable rules</p> <p>Operations are planned and resources are allocated as needed in correct priority to perform necessary tasks</p> <p>Communication is clearly and unambiguously given and received</p> <p>Effective leadership behaviours are demonstrated</p> <p>Necessary team member(s) share accurate understanding of current and predicted vessel status and operational status and external environment</p> <p>Decisions are most effective for the situation</p>

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Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods of demonstrating competence	Criteria for evaluating competence
	.3 selecting course of action .4 evaluation of outcome effectiveness		
Contribute to the safety of personnel and ship	Knowledge of personal survival techniques Knowledge of fire prevention and ability to fight and extinguish fires Knowledge of elementary first aid Knowledge of personal safety and social responsibilities	Assessment of evidence obtained from approved training and experience as set out in part 2 paragraph 2	Appropriate safety and protective equipment is correctly used Procedures and safe working practices designed to safeguard personnel and the ship are observed at all times Procedures designed to safeguard the environment are observed at all times Initial and follow-up action of an emergency conforms with established emergency response procedures

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PART 9			
(Regulation 31)			
Standard of Competence for Master and Chief Mate on Seagoing Ship of 500 GT or more			
Function: Navigation at the Management Level			
Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods of 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> <p>.1 restricted waters;</p> <p>.2 meteorological conditions;</p> <p>.3 ice;</p> <p>.4 restricted viability;</p> <p>.5 traffic separation schemes;</p> <p>.6 vessel traffic (VTS) areas</p> <p>Areas of extensive tidal effects</p> <p>Routeing in accordance with the General Provisions on Ships' Routeing</p> <p>Reporting in accordance with the Guidelines and Criteria for Ships Reporting Systems</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 laboratory equipment training</p> <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>Position determination in all conditions:</p> <p>.1 by celestial observations;</p> <p>.2 by terrestrial observation, including the ability to use appropriate charts, notices to Mariners and other publications to assess the accuracy of the resulting position fix</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>The primary method chosen for fixing the ship's position is the most appropriate to the prevailing circumstances and conditions</p>

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Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>.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</p>	<p>.3 approved laboratory equipment training using:</p> <p>.1 charts, nautical almanac, plotting sheets, chronometer, sextant and a calculator</p> <p>.2 charts, nautical publications and navigational instruments (azimuth mirror, sextant, log, sounding equipment, compass) and manufacturers' manuals</p> <p>.3 radar, terrestrial electronic position-fixing systems, satellite navigation systems and appropriate nautical charts and publications</p>	<p>The fix obtained by terrestrial observations is within accepted accuracy levels</p> <p>The accuracy of the resulting fix is properly assessed</p> <p>The fix obtained by the use of electronic navigational aids is within the accuracy standards of the systems in use. The possible errors affecting the accuracy of the resulting position are stated and methods of minimizing the effects of system errors on the resulting position are properly applied</p>
<p>Determine and allow for compass errors</p>	<p>Ability to determine and allow for errors of the magnetic and gyro-compasses</p> <p>Knowledge of the principles of magnetic and gyro-compasses</p> <p>An understanding of systems under the control of the master gyro and a knowledge of the operation and care of the main type of gyro-compass</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 laboratory equipment training</p> <p>using: celestial observations, terrestrial bearings and comparison between magnetic and gyro-compasses</p>	<p>The method and frequency of checks for errors of magnetic and gyro-compasses ensures accuracy of information</p>

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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 International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience; .2 approved simulator training, where appropriate; .3 approved laboratory equipment training using: relevant publications, charts, meteorological data, particulars of 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	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 arrangement 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	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

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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 information from navigation equipment and 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,</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 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>Examination and assessment of evidence obtained from approved ARPA simulator and 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 laboratory equipment training</p>	<p>Information obtained from navigation equipment and systems is correctly interpreted and analysed, taking into account the limitations of the equipment and prevailing circumstances and conditions</p> <p>Action taken to avoid a close encounter or collision with another vessel is in accordance with the Shipping (Prevention of Collisions) Regulations</p>
<p>Maintain safe navigation through the use of ECDIS and associated navigation systems to assist command decision making</p> <p><i>Note:</i> Training and assessment in the use of ECDIS is not required for those who serve exclusively on</p>	<p>Management of operational procedures, systems, system files and data, including:</p> <p>.1 manage procurement, licensing and updating of chart data and system software to conform to established procedures</p> <p>.2 system and information updating, including the ability to update ECDIS system version in accordance with vendor's product development</p>	<p>Assessment of evidence obtained from one of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved ECDIS simulator training</p>	<p>Operational procedures for using ECDIS are established, applied and monitored</p> <p>Actions taken to minimize risk to safety of navigation</p>

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Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>ships not fitted with ECDIS. This limitation shall be reflected in the endorsement issued to the seafarer concerned</p>	<p>.3 create and maintain system configuration and backup files</p> <p>.4 create and maintain log files in accordance with established procedures</p> <p>.5 create and maintain route plan files in accordance with established procedures</p> <p>.6 use ECDIS log-book and track history functions for inspection of system functions, alarm settings and user responses</p> <p>Use ECDIS playback functionality for passage review, route planning and review of system functions</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 ocean current systems</p> <p>Ability to calculate tidal conditions</p> <p>Use all appropriate nautical publications on tides and currents</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 laboratory equipment training</p>	<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 minimize any risk to safety of the ship</p> <p>Reasons for intended action are backed by statistical data and observations of the actual conditions</p>

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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 procedure</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 problems is promptly identified and decisions and actions minimize the effects of any malfunction of the ship's systems</p> <p>Communications are effective and comply with established procedures</p> <p>Decisions and actions maximize 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> <p>.1 manoeuvres when approaching pilot stations and embarking or disembarking pilots, with due regard to weather, tide, head reach and stopping distances;</p> <p>.2 handling ship in rivers, estuaries and restricted waters, having regard to the effects of current, wind and restricted water on helm response;</p> <p>.3 application of constant rate of turn techniques;</p> <p>.4 manoeuvring in shallow water, including the reduction in under keel clearance caused by squat, rolling and pitching:</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 manned scale ship model, where appropriate</p>	<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>

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Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>.5 interaction between passing ships and between own ship and nearby banks (canal effect);</p> <p>.6 berthing and unberthing under various conditions of wind, tide and current with and without tugs;</p> <p>.7 ship and tug interaction;</p> <p>.8 use of propulsion and manoeuvring systems</p> <p>.9 choice of anchorage; anchoring with one or two anchors in limited anchorages and factors involved in determining the length of anchor cable to be used;</p> <p>.10 dragging anchor, clearing fouled anchors</p> <p>.11 dry-docking, both with and without damage;</p> <p>.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;</p> <p>.13 precautions in manoeuvring to launch rescue boats or survival craft in bad weather</p> <p>.14 methods of taking on board survivors from rescue boats and survival craft;</p>		

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Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>.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;</p> <p>.16 importance of navigating at reduced speed to avoid damage caused by own ship's bow wave and stern wave;</p> <p>.17 practical measures to be taken when navigating in or near ice or in conditions of ice accumulation on board;</p> <p>.18 use of, and manoeuvring in and near, traffic separation schemes and in vessel traffic service (VTS) areas</p>		
Operate remote controls of propulsion plant and engineering systems and services	<p>Operating principles of marine plants</p> <p>Ships' auxiliary machinery</p> <p>General knowledge of marine engineering terms</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>Plant, auxiliary machinery and equipment is operated in accordance with technical specifications and within safe operating limits at all times</p>

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Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Function: Cargo handling and stowage at the management level			
<p>Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes</p>	<p>Knowledge of and ability to apply relevant international regulations, codes and standards concerning the safe handling, stowage, securing and transport of cargoes</p> <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</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>using: stability, trim and stress tables, diagrams and stress-calculating equipment.</p>	<p>The frequency and extent of cargo condition monitoring is appropriate to its nature and prevailing conditions</p> <p>Unacceptable or unforeseen variations in the condition or specification of the cargo is promptly recognized 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</p>

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Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>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 IMDG Code, IMSBC Code, MARPOL 73/78, Annexes III and V and other relevant information</p> <p>Ability to explain the basic principles for establishing effective communications and improving working relationship between ship and terminal personnel</p>		that stability and stress conditions remain within safe limits at all times during the voyage
Assess reported defects and damage 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> <p>.1 approved in-service experience;</p> <p>.2 approved simulator training, where appropriate using: stability, trim and stress tables, diagrams and stress-calculating equipment</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

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Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Carriage of dangerous goods	<p>International regulations, standards, codes and recommendations on the carriage of dangerous cargoes, including the International Maritime Dangerous Goods (IMDG) Code and the International Maritime Solid Bulk Cargoes (IMSBC) 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>
Function: Controlling the Operation of the Ship and Care for Persons on Board at the Operational Level			
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> <p>.1 approved in-service experience;</p> <p>.2 approved training ship experience;</p> <p>.3 approved simulator training, where appropriate</p>	<p>Stability and stress conditions are maintained within safe limits at all times</p>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea,</p> <p>Security and the protection of the marine environment</p>	<p>Knowledge of international maritime law embodied in international agreements and conventions</p> <p>Regard shall be paid especially to the following subjects:</p> <p>.1 certificates and other documents required to be carried on board ships by international conventions, how they must be obtained and their period of validity;</p> <p>.2 responsibilities under the relevant requirements of the International Convention on Load Lines</p> <p>.3 responsibilities under the relevant requirements of the International Convention for the Safety of Life at Sea</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>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience;</p> <p>.2 approved training ship experience;</p> <p>.3 approved simulator training, where appropriate</p>	<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>

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Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Maintain safety and security of the ship's crew and passengers and the operational condition of life-saving, firefighting and other safety systems	<p>A thorough knowledge of life-saving appliance regulations (International Convention for the Safety of Life at Sea)</p> <p>Organization of fire and abandon ship drills</p> <p>Maintenance of operational condition of life-saving, firefighting 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 a fire, explosion, collision or grounding</p>	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
Develop emergency and damage control plans and handle emergency situations	<p>Preparation of contingency plans for response to emergencies</p> <p>Ship construction, including damage control</p> <p>Methods and aids for fire prevention,</p> <p>of keeping an unmanageable ship out of trough of the sea, lessening drift and use of oil;</p> <p>.13 precautions in manoeuvring to launch rescue boats or survival craft in bad weather; 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

Shipping (Manning and Certification) Regulations

Column 1	Column 3	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Use of leadership and managerial skill	<p>Knowledge of shipboard personnel management and training</p> <p>A knowledge of related international maritime conventions and recommendations, and additional legislation</p> <p>Ability to apply task and workload management, including:</p> <ul style="list-style-type: none"> .1 planning and co-ordination .2 personnel assignment .3 time and resource constraints .4 prioritization <p>Knowledge and ability to apply effective resource management</p> <ul style="list-style-type: none"> .1 allocation, assignment, and prioritization of resources .2 effective communication on board and ashore .3 decisions reflect consideration of team experiences .4 assertiveness and leadership, including motivation .5 obtaining and maintaining situation awareness <p>Knowledge and ability to apply decision-making techniques:</p> <ul style="list-style-type: none"> .1 situation and risk assessment .2 identify and generate options .3 selecting course of action 	<p>Assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> .1 approved training .2 approved in-service experience .3 approved simulator training 	<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 assessment of current competence and capabilities and operational requirements</p> <p>Operations are demonstrated to be in accordance with applicable rules</p> <p>Operations are planned and resources are allocated as needed in correct priority to perform necessary tasks</p> <p>Communication is clearly and unambiguously given and received</p> <p>Effective leadership behaviours are demonstrated</p> <p>Necessary team member(s) share accurate understanding of current and predicted vessel state and operational status and external environment</p> <p>Decisions are most effective for the situation</p>

Shipping (Manning and Certification) Regulations

Column 1	Column 3	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Use of leadership and managerial skill (Continued)	.4 evaluation of outcome effectiveness Development, implementation and oversight of standard operating procedures.		Operations are demonstrated to be effective and in accordance with applicable rules
Organize 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

Shipping (Manning and Certification) Regulations

PART 10

(Regulation 33)

Officer in Charge of Navigational Watch on Seagoing Ship of less than 500 GT 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
<p>Plan and conduct a coastal passage and determine position</p> <p><i>Note:</i> Training and assessment in the use of ECDIS is not for those who serve exclusively on ships not fitted with ECDIS. These limitations shall be reflected in the endorsement issued to the seafarer concerned</p>	<p><i>Navigation</i></p> <p>Ability to determine the ship's position by the use of:</p> <p>.1 landmarks;</p> <p>.2 aids to navigation, including lighthouses, beacons and buoys;</p> <p>.3 dead reckoning, taking into account winds, tides, currents and estimated speed</p> <p>Thorough knowledge of an ability to use nautical charts and publications, such as sailing directions, tide tables, notices to mariners, radio navigational warnings and ships' routing information</p> <p>Reporting in accordance with General Principles for Ship Reporting Systems and with VTS procedures</p> <p>Note: This item is only required for certification as master</p> <p>Voyage planning and navigation for all conditions by acceptable methods of plotting coastal tracks, taking into account, e.g.:</p> <p>1 restricted waters</p> <p>.2 meteorological conditions</p> <p>.3 ice</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 training ship experience;</p> <p>.3 approved simulator training, where appropriate;</p> <p>.4 approved laboratory equipment training</p> <p>Using: chart catalogues, charts, nautical publications, radio navigational warnings, sextant, azimuth mirror, electronic navigation equipment, echo-sounding equipment, compass</p> <p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved training ship experience</p> <p>.2 approved ECDIS simulator training</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 instruments 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</p>

Shipping (Manning and Certification) Regulations

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 <i>(continued)</i>	<p>.4 restricted visibility</p> <p>.5 traffic separation schemes</p> <p>.6 vessel traffic service (VTS) areas</p> <p>.7 areas of extensive tidal effects</p> <p>Note: This item is only required for certification as master</p> <p>Thorough knowledge of and ability to use ECDIS</p> <p><i>Navigational aids and equipment</i></p> <p>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></p> <p>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></p> <p>Knowledge of automatic pilot systems and procedures; change-over from manual to automatic control and vice versa; adjustment of controls for optimum performance</p>	Assessment of evidence obtained from approved radar simulator	<p>and charts are corrected in accordance with the latest information available</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> <p>Measurements and observations of weather conditions are accurate and appropriate to the passage</p>

Shipping (Manning and Certification) Regulations

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 <i>(continued)</i>	<p><i>Meteorology</i></p> <p>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>		Meteorological information is evaluated and applied to maintain the safe passage of the vessel
Maintain a safe navigational watch	<p><i>Watchkeeping</i></p> <p>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> <p>.1 approved in-service experience;</p> <p>.2 approved training ship experience;</p> <p>.3 approved simulator training, where appropriate;</p> <p>.4 approved laboratory equipment training</p>	<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 recognized</p> <p>The frequency and extent of monitoring of traffic, the ship and the environment conforms with accepted principles and procedures</p>

Shipping (Manning and Certification) Regulations

Column 1	Column 1	Column 1	Column 1
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
			<p>Action to avoid close encounters and collision with other vessels is in accordance 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 of accidents or illnesses that are likely to occur on board ship	<p>Emergency procedures, including:</p> <p>.1 precautions for the protection and safety of passengers in emergency situations;</p> <p>.2 initial assessment of following material damage and damage control;</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 training ship experience;</p>	<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>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>.3 action to be taken following a collision</p> <p>.4 action to be taken following a grounding</p> <p>In addition, the should be included for certification as master:</p> <p>.1 emergency steering;</p> <p>.2 arrangements for towing and for being taken in tow</p> <p>.3 rescuing persons from the sea</p> <p>.4 assisting a vessel in distress</p> <p>.5 appreciation of the action to be taken when emergencies arise in port</p>	<p>3 approved simulator training, where appropriate;</p> <p>.4 practical instruction</p>	
Respond to a distress signal at sea	<p><i>Search and rescue</i></p> <p>Knowledge of the contents of the International Aeronautical and Maritime Search and Rescue (IAM SAR) Manual</p>	Examination and assessment of evidence obtained from practical instruction or approved simulator training, where appropriate	<p>The distress or emergency is immediately recognized</p> <p>Contingency plans and instructions in standing orders are implemented and complied with</p>
Manoeuvre the ship and operate small ship power plants	<p><i>Ship manoeuvring and handling</i></p> <p>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>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience;</p> <p>.2 approved training ship experience;</p> <p>.3 approved simulator training, where appropriate</p>	<p>Safe operating limits of ship 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>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Function: Cargo Handling and Stowage at the Operational Level			
Monitor the loading, stowage, securing and unloading of cargoes and their care during the voyage	<p><i>Cargo handling, stowage and securing</i></p> <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>Use of the International Maritime Dangerous Goods (IMDG) Code</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 training ship experience;</p> <p>.3 approved simulator training, where appropriate</p>	<p>Cargo operations are carried out in accordance with the cargo plan or other documents and established safety rules or regulations, equipment operating instructions and shipboard stowage limitations</p> <p>The handling of dangerous, hazardous and harmful cargoes complies with international regulations and recognized standards and codes of safe practice limitations</p>
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> <p>.1 approved in-service experience;</p> <p>.2 approved training, ship experience</p>	<p>Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed</p>

Shipping (Manning and Certification) Regulations

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></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><i>Ship construction</i></p> <p>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> <p>.1 approved in-service experience;</p> <p>.2 approved training ship experience;</p> <p>.3 approved simulator training, where appropriate;</p> <p>.4 approved laboratory equipment training</p>	<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 firefighting appliances</i></p> <p>Ability to organize fire drills</p> <p>Knowledge of classes and chemistry of fire</p> <p>Knowledge of firefighting systems</p> <p>Understanding of action to be taken in the event of fire, including fires involving oil systems</p>	<p>Assessment of evidence obtained from approved firefighting training and experience as set out in Part 6</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 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>

Shipping (Manning and Certification) Regulations

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	<i>Life-Saving</i> Ability to organize abandon ship drills and knowledge of the operation of survival craft and rescue boats, their launching appliances and arrangements, and their equipment including radio life-saving appliances, satellite EPIRBs, SARTs, immersion suits and thermal protective aids	Assessment of evidence obtained from approved training and experience as set out in Part 15, paragraphs 1 to 4	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	<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	Assessment of evidence obtained from approved training as set out in Part 7, paragraphs 1 to 3	The identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimizes immediate threat to life
Monitor compliance with legislative requirements	Basic working knowledge of the relevant IMO Conventions 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, security and protection of the marine environment are correctly identified
Contribute to the safety of personnel and ship	Knowledge of personal survival techniques Knowledge of fire prevention and ability to fight and extinguish fires Knowledge of elementary first aid knowledge of personal safety and social responsibilities	Assessment of evidence obtained and approved training and experiences as set out in section A-VI/1, paragraph 2	Appropriate safety and protective equipment is correctly used Procedures and safe working practices designed to safeguard personnel and the ship are observed at all times Procedures designed to safeguard the environment are observed at all times Initial and follow-up actions on becoming aware of an emergency conform with established emergency response procedures

*Shipping (Manning and Certification) Regulations***PART 11**

(Regulation 34)

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 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 .3 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 seafarer-like 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 .3 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 watch keeping duties Procedures for the relief, maintenance and handover of a watch Information required to maintain a safe watch Basic environmental protection procedures	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

Shipping (Manning and Certification) Regulations

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 and alarm signals</p> <p>Knowledge of pyrotechnic distress signals; satellite EPIRBs and SARTs</p> <p>Avoidance of false distress alerts and action to be taken in event of accidental activation</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 situations is in conformity with established practices and procedures</p> <p>Communications are clear and concise at all times and orders are acknowledged in a seafarer-like manner</p> <p>The integrity of emergency and distress alerting systems is maintained at all times</p>

Shipping (Manning and Certification) Regulations

PART 12

(Regulation 35)

Officer in Charge of an Engineering Watch in Manned Engine-room or designated duty Engineer in a Periodically Unmanned Engine-room

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
Maintain a safe engineering watch	<p>Thorough knowledge of Principles to be observed in keeping an engineering watch, including:</p> <p>.1 duties associated with taking over and accepting a watch;</p> <p>.2 routine duties undertaken during a watch;</p> <p>.3 maintenance of the machinery space log-book and the significance of the readings taken;</p> <p>.4 duties associated with handing over a watch</p> <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> <p><i>Engine-room resource management</i></p> <p>Knowledge of engine-room resource management principles, including:</p> <p>.1 allocation, assignment, and prioritization of resources</p> <p>.2 effective communication</p> <p>.3 assertiveness and leadership</p>	<p>Assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience; of remote or automatic to local control of all systems</p> <p>.2 approved training ship experience;</p> <p>.3 approved simulator training, where appropriate;</p> <p>.4 approved laboratory equipment training</p> <p>Assessment of evidence obtained from one or more of the following:</p> <p>.1 approved training</p> <p>.2 approved in-service experience</p> <p>.3 approved simulator training</p>	<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> <p>proper record is maintained of the movements and activities relating to the ship's engineering systems</p> <p>Resources are allocated and assigned as needed in correct priority to perform necessary tasks</p> <p>Communication is clearly and unambiguously given and received</p> <p>Questionable decisions or actions result in appropriate challenge and response</p>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Maintain a safe engineering watch (<i>continued</i>)	.4 obtaining and maintaining situational awareness .5 consideration of team experience		Effective leadership behaviours are identified Team member(s) share accurate understanding of current and predicted engine-room and associated systems state, and external environment
Use English in written and oral form	Adequate knowledge of the English language to enable the officer to use engineering publications and to perform engineering duties	Examination and assessment of evidence obtained from practical instruction	English language publications relevant to engineering duties are correctly interpreted Communications are clear and understood
Use internal communication systems	Operation of all internal communication systems on board	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training ship experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Transmission and reception of messages are consistently successful Communication records are complete, accurate and comply with statutory requirements
Operate main and auxiliary machinery and associated control systems	Basic construction and operation principles of machinery systems, including: .1 marine diesel engine .2 marine steam turbine .3 marine gas turbine .4 marine boiler	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience: .2 approved training ship experience	Construction and operating mechanisms can be understood and explained with drawings/ instructions

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Operate main and auxiliary machinery and associated control systems (Continued)	<p>.5 shafting installations, including propeller</p> <p>.6 other auxiliaries, including various pumps, air compressor, purifier, fresh water generator, heat exchanger, refrigeration, air-conditioning and ventilation systems</p> <p>.7 steering gear</p> <p>.8 automatic control systems</p> <p>.9 fluid flow and characteristics of lubricating oil, fuel oil and cooling systems</p> <p>.10 deck machinery</p> <p>Safety and emergency procedures for operation of propulsion plant machinery, including control systems</p> <p>Preparation, operation, fault detection and necessary measures to prevent damage for the following machinery items and control systems:</p> <p>.1 main engine and associated auxiliaries</p> <p>.2 steam boiler and associated auxiliaries and steam systems</p> <p>.3 auxiliary prime movers and associated systems</p> <p>.4 other auxiliaries, including refrigeration, air-conditioning and ventilation systems</p>	<p>.3 approved laboratory equipment training</p> <p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved engine and associated auxiliaries</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training, where appropriate</p> <p>.4 approved laboratory equipment training</p>	<p>Operations are planned and carried out in accordance with operating manuals, established rules and procedures to ensure safety of operations and avoid pollution of the marine environment</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 prevailing circumstances and conditions</p>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Operate fuel, lubrication, ballast and other pumping systems and associated control systems	Operational characteristics of pumps and piping systems Operation of pumping systems: .1 routine pumping operations .2 operation of bilge, ballast and cargo pumping systems Oily-water separators (or similar equipment) requirements and operation	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training ship experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Operations are planned and carried out in accordance with operating manuals, established rules and procedures to ensure safety of operations and avoid pollution of the marine environment Deviations from the norm are promptly identified and appropriate action is taken

Function: Electrical, Electronic and Control Engineering at the Operational Level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Operate electrical, electronic and control systems	Basic configuration and operation principles of the following electrical, electronic and control equipment: .1 electrical equipment: .a generator and distribution systems .b preparing, starting, paralleling and changing over generators .c electrical motors including starting methodologies .d high-voltage installations .e sequential control circuits and associated system devices	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 operating manuals, established rules and procedures to ensure safety of operations Electrical, electronic and control systems can be understood and explained with drawing or instructions

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Operate electrical, electronic and control systems</p> <p>(Continued)</p>	<p>.2 electronic equipment:</p> <p>.a characteristics of basic electronic circuit elements</p> <p>.b flowchart for automatic and control systems</p> <p>.c functions, characteristics and features of control systems for machinery items, including main propulsion plant operation control and steam boiler automatic controls</p> <p>.3 control systems:</p> <p>.a various automatic control methodologies and characteristics</p> <p>.b Proportional-Integral Derivative (PID) control characteristics and associated system devices for process control</p>		
	<p>Safety requirements for working on shipboard electrical systems, including the safe isolation of electrical equipment required before personnel are permitted to work on such equipment</p> <p>Maintenance and repair of electrical system equipment, switchboards, electric motors, generator and DC electrical systems and equipment</p> <p>Detection of electric malfunction, location of faults and measures to prevent damage</p> <p>Construction and operation of electrical testing and measuring equipment</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved workshop skills training</p> <p>.2 approved practical experience and tests</p> <p>.3 approved in-service experience</p> <p>.4 approved training ship experience</p>	<p>Safety measures for working are appropriate</p> <p>Selection and use of hand tools, measuring instruments, and testing equipment are appropriate and interpretation of results is accurate</p> <p>Dismantling, inspection, repairing and reassembling equipment are in accordance with manuals and good practice</p> <p>Reassembling and performance testing is in accordance with manuals and good practice</p>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Maintenance and repair of electrical and electronic equipment (Continued)	Function and performance tests of the following equipment and their configuration: . 1 monitoring systems .2 automatic control devices .3 protective devices The interpretation of electrical and simple electronic diagrams		
Appropriate use of hand tools, machine tools and measuring instruments for fabrication and repair on board	Characteristics and limitations of materials used in construction and repair of ships and equipment Characteristics and limitations of processes used for fabrication and repair Properties and parameters considered in the fabrication and repair of systems and components Methods for carrying out safe emergency or temporary repairs Safety measures to be taken to ensure a safe working environment and for using hand tools, machine tools and measuring instruments Use of hand tools, machine tools and measuring instruments Use of various types of sealants and packings	Assessment of evidence obtained from one or more of the following: .1 approved workshop skills training; .2 approved practical experience and tests; .3 approved in-service experience .4 approved training ship experience	Identification of important parameters for fabrication of typical ship-related components is appropriate Selection of materials is appropriate Fabrication is to designated tolerances Use of equipment and hand tools, machine tools and measuring instruments is appropriate and safe
Maintenance and repair of shipboard machinery and equipment	Safety measures to be taken for repair and maintenance, including the safe isolation of shipboard machinery and equipment required before personnel are permitted to work on such machinery of equipment	Examination and assessment of evidence obtained from one or more of the following: .1 approved workshop skills training	Safety procedures followed are appropriate Selection of tools and spare gear is appropriate

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Methods for demonstrating competence
Maintenance and repair of shipboard machinery and equipment (Continued)	Maintenance and repair, such as dismantling, adjustment and reassembling, adjustment and reassembling of machinery and equipment The use of appropriate specialized tools and measuring instruments Design characteristics and selection of materials in construction of equipment Interpretation of machinery drawings and handbooks The interpretation of piping, hydraulic and pneumatic diagrams	.2 approved practical experience and tests. .3 approved in-service experience .4 approved training ship experience	Dismantling, inspecting, repairing and reassembling equipment is in accordance with manuals and good practice Re-commissioning and performance with manuals and good practice Selection of materials and parts is appropriate
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</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 .3 approved training	Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed Actions to ensure that a positive environmental reputation is maintained

Shipping (Manning and Certification) Regulations

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></p> <p>Working knowledge and application of stability, trim and stress tables, diagrams and stress-calculating equipment 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></p> <p>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> <p>.1 approved in-service experience;</p> <p>.2 approved training ship experience;</p> <p>.3 approved simulator training, where appropriate;</p> <p>.4 approved laboratory equipment training</p>	<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 firefighting appliances</i></p> <p>Ability to organize 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 system</p>	<p>Assessment of evidence obtained from approved firefighting training and experience as set out in Part</p>	<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>

Shipping (Manning and Certification) Regulations

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	<i>Life-saving</i> Ability to organize abandon ship drills and knowledge of the operation of survival craft, rescue boats, launching appliances, arrangements, and the equipment, including radio life-saving appliances, satellite EPIRBs, SARTs, immersion suits and thermal protective aids	Assessment of evidence obtained from approved training and experience as set out in Part 15, paragraphs 1 to 4	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	<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 Part 7, paragraphs 1 to 3	Identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimizes immediate threat to life.
Monitor compliance with legislative requirements	Basic working knowledge of the relevant IMO conventions concerning safety of life at sea, security and protection of the marine environment	Assessment of evidence obtained from examination or approved training	Legislative requirements relating to safety of life at sea, security and protection of the marine environment are correctly identified
Application of leadership and teamworking skills	Working knowledge of shipboard personnel management and training A knowledge of related international maritime conventions and recommendations, and national legislation	Assessment of evidence obtained from one or more of the following: .1 approved training .2 approved in-service experience .3 practical demonstration	The crew are allocated duties and informed of inspected standards of work and behaviour in a manner appropriate to the individuals concerned

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Application of leadership and teamworking skills</p> <p><i>(Continued)</i></p>	<p>Ability to apply task and workload management including:</p> <ul style="list-style-type: none"> .1 planning and co-ordination .2 personnel assignment .3 time and resource constraints .4 prioritization <p>Knowledge and ability to apply effective resource management:</p> <ul style="list-style-type: none"> .1 allocation, assignment, and prioritization of resources .2 effective communication on board and ashore .3 decisions reflect consideration of team experiences .4 assertiveness and leadership, including motivation .5 obtaining and maintaining situational awareness <p>Knowledge and ability to apply decision-making techniques:</p> <ul style="list-style-type: none"> .1 situation and risk assessment .2 identify and consider generated options .3 selecting course of action .4 evaluation of outcome effectiveness 		<p>Training objectives and activities are based on assessment of current competence and capabilities and operational requirements.</p> <p>Operations are demonstrated to be in accordance with applicable rules</p> <p>Operations are planned and resources are allocated as needed in correct priority to perform necessary tasks</p> <p>Communications is clearly and unambiguously given and received</p> <p>Effective leadership behaviours are demonstrated</p> <p>Necessary team member(s) share accurate understanding of current and predicted vessel state and operational status and external environment</p> <p>Decisions are most effective for the situation</p>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Contribute to the safety of personnel and ship	<p>Knowledge of personal survival techniques</p> <p>Knowledge of fire prevention and ability to fight and extinguish fires</p> <p>Knowledge of elementary first aid</p> <p>Knowledge of personal safety and social responsibilities</p>	Assessment of evidence obtained from approved training and experience as set out in Part 2 paragraph 2	<p>Appropriate and protective equipment is correctly used</p> <p>Procedures and safe working practices designed to safeguard personnel and the ship are observed at all times</p> <p>Procedures designed to safeguard the environment are observed at all times</p> <p>Initial and follow-up actions on becoming aware of an emergency conform with established emergency response procedures</p>
Manage the operation of propulsion plant machinery	<p>Design features, and operative mechanism of the following machinery and associated auxiliaries:</p> <p>.1 marine diesel engine</p> <p>.2 marine steam turbine</p> <p>.3 marine gas turbine</p> <p>.4 marine steam boiler</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 training ship experience</p> <p>.3 approved simulator training, where appropriate</p> <p>.4 approved laboratory equipment training</p>	Explanation and understanding of design features and operating mechanisms are appropriate

Shipping (Manning and Certification) Regulations

PART 13			
(Regulation 36)			
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
Manage the operation of propulsion plant machinery	Design features, and following mechanism of the following machinery and associated auxiliaries: .1 marine diesel engine .2 marine steam turbine .3 marine gas turbine .4 marine steam boiler	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training ship experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Explanation and understanding of design features and operating mechanisms are appropriate
Plan and schedule operations	<i>Theoretical knowledge</i> Thermodynamics and heat transmission Mechanics and hydromechanics Propulsive characteristics of diesel engines, steam and gas turbines, including speed, output and fuel consumption Heat cycle, thermal efficiency and heat balance of the following: .1 marine diesel engine .2 marine steam turbine .3 marine gas turbine .4 marine steam boiler	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 planning and preparation of operations is suited to the design parameters of the power installation and to the requirements of the voyage

Shipping (Manning and Certification) Regulations

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 <i>(continued)</i>	Refrigerators and refrigeration cycle Physical and chemical properties of fuels and lubricants Technology of materials	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 methods of preparing for the start-up and of making available fuels, lubricants, cooling water and air are the most appropriate Checks of pressures, temperatures and revolutions during the start-up and warm-up period are in accordance with technical specifications and agreed work plans Surveillance of main propulsion plant and auxiliary systems is sufficient to maintain safe operating conditions The methods of preparing the shutdown, or supervising the cooling down of the engine are the most appropriate The methods of measuring the load capacity of the engines are in accordance with technical specifications Performance is checked against bridge orders Performance levels are in accordance with technical specifications
Operation, surveillance, performance	Naval architecture and ship construction, including damage control <i>Practical Knowledge</i> Start up and shut down assessment and maintaining safety of propulsion plant and auxiliary machinery Functions and mechanism of automatic control for auxiliary machinery including but not limited to: .1 generator distribution systems .2 steam boilers .3 oil purifier .4 refrigeration system .5 pumping and piping systems .6 steering gear system 7. cargo-handling equipment and deck machinery main propulsion and auxiliary machinery, including associated systems		

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Manage fuel lubrication and ballast operations	Operation and maintenance of machinery, including pumps and piping systems	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience; .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
Manage operation of electrical and electronic control equipment	<i>Theoretical knowledge</i> Marine electrotechnology, electronics, power electronics, automatic control engineering and safety devices Design features and system configurations of automatic control equipment and safety devices for the following: .1 main engine .2 generator and distribution system .3 steam boiler Design features and system configurations of operational control equipment for electrical motors Design features of high-voltage installations Features of hydraulic and pneumatic control equipment	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training 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

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Manage troubleshooting, restoration of electrical and electronic control equipment to operating condition	<p><i>Practical knowledge</i></p> <p>Troubleshooting of electrical and electronic control equipment</p> <p>Function test of electrical, electronic control equipment and safety devices</p> <p>Troubleshooting of monitoring systems</p> <p>Software version control</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 training ship experience</p> <p>.3 approved simulator training, where appropriate</p> <p>.4 approved laboratory equipment training</p>	<p>Maintenance activities are correctly planned in accordance with technical, legislative, safety and procedural specifications</p> <p>Inspection, testing and troubleshooting of equipment are appropriate</p>
Manage safe and effective maintenance and repair procedures	<p><i>Theoretical Knowledge</i></p> <p>Marine engineering practice</p> <p><i>Practical knowledge</i></p> <p>Manage safe and effective maintenance and repair procedures</p> <p>Planning maintenance, including statutory and class verifications</p> <p>Planning repairs</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service ship experience</p> <p>.2 approved training ship experience</p> <p>.3 approved workshop training</p>	<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>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Detect and identify the cause of machinery malfunctions and correct faults	<p><i>Practical knowledge</i></p> <p>Detection of machinery malfunction, location of faults and action to prevent damage</p> <p>Inspection and adjustment of equipment</p> <p>Non-destructive examination</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 training ship experience</p> <p>.3 approved simulator training, where appropriate</p> <p>.4 approved laboratory equipment training</p>	<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>
Ensure safe working practices	<p><i>Practical knowledge</i></p> <p>Safe working practices</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 training ship experience</p> <p>.3 approved laboratory equipment training</p>	<p>Working practices are in accordance with legislative requirements, codes of practice, permits to work and environmental concerns</p>

Shipping (Manning and Certification) Regulations

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 counter measures 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> <p>.1 approved in-service experience;</p> <p>.2 approved training ship experience;</p> <p>.3 approved simulator training, where appropriate</p>	<p>Stability and stress conditions are maintained within safety limits at all times</p>
Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, and protection of the marine environment	<p>Knowledge of relevant international maritime law embodied in international agreements and conventions</p> <p>Regard shall be paid especially to the following subjects:</p> <p>.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;</p> <p>.2 responsibilities under the relevant requirements of the international Convention on Load Lines</p> <p>.3 responsibilities under the relevant requirements of the International Convention for the Safety of Life at Sea</p> <p>.4 responsibilities under the International Convention for the Prevention of Pollution from Ships</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 training ship experience;</p> <p>.3 approved simulator training, where appropriate</p>	<p>Procedures for monitoring operations and maintenance comply with legislative requirements</p> <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>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, and protection of the marine environment</p> <p>(Continued)</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 ships, passengers, crew or cargo</p> <p>.7 methods and aids to prevent pollution of the environment by ships</p> <p>.8 knowledge of national legislation for implementing international agreements and conventions</p>		
<p>Maintain safety and security of the vessel, crew and passengers and the operational condition of life-saving, firefighting 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>Organization of fire and abandon ship drills</p> <p>Maintenance of operational condition of life-saving, firefighting 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>	<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>
<p>Develop emergency and damage control plans and handle emergency situations</p>	<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>	<p>Examination and assessment of evidence obtained from approved in-service training and experience</p>	<p>Emergency procedures are in accordance with the established plans for emergency situations</p>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Use leadership and managerial skills	<p>A knowledge of shipboard personnel management and training A knowledge of international maritime conventions and recommendations, and related national legislation</p> <p>Ability to apply task and workload management, including:</p> <ul style="list-style-type: none"> .1 planning and coordination .2 personnel assignment .3 time and resource constraints .4 prioritization <p>Knowledge and ability to apply effective resource management</p> <ul style="list-style-type: none"> .1 allocation, assignment, and prioritization of resources .2 effective communication on board and ashore .3 decisions reflect consideration of team experience. .4 assertiveness and leadership, including motivation .5 obtaining and maintaining situation awareness <p>Knowledge and ability to apply decision-making techniques:</p> <ul style="list-style-type: none"> .1 situation and risk assessment .2 identify and generate options .3 select course of action .4 evaluation of outcome effectiveness <p>Development, implementation, and oversight of standard operating procedures</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 behavior 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> <p>Operations are demonstrated to be in accordance with applicable rules</p> <p>Operations are planned and resources are allocated as needed in correct priority to perform necessary tasks</p> <p>Communication is clearly and unambiguously given and received</p> <p>Effective leadership behaviours are demonstrated</p> <p>Necessary team member(s) share accurate understanding of current and predicted vessel state and operational status and external environment</p> <p>Decisions are most effective for the situation</p> <p>Operations are demonstrated to be effective and in accordance with applicable rules</p>

*Shipping (Manning and Certification) Regulations***PART 14**

(Regulation 38)

Ratings Forming Part of an Engineering 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 watch keeping duties</p>	<p>Terms used in machinery spaces and names of machinery and equipment</p> <p>Engine-room watch keeping 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> <p>.1 approved in-service experience;</p> <p>.2 approved training ship experience;</p> <p>.3 practical test</p>	<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> <p>.1 approved in-service experience;</p> <p>.2 approved training ship experience; or</p> <p>.3 practical test</p> <p>.4 approved simulator training, where appropriate</p>	<p>Assessment of boiler condition is accurate and based on relevant information available from local and remote indicators and physical inspection</p> <p>The sequence and timing of adjustments maintains safety and optimum efficiency</p>

Shipping (Manning and Certification) Regulations

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 firefighting 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 seafarerlike manner</p>

*Shipping (Manning and Certification) Regulations***PART 15**

(Regulation 39)

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 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 devices 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>Dangers associated with use of on-load release devices</p> <p>Knowledge of maintenance procedures</p>	<p>Assessment of evidence obtained from practical demonstration of ability to:</p> <p>.1 right an inverted life raft while wearing a lifejacket;</p> <p>.2 interpret the markings on survival crafts as to the number of persons they are intended to carry;</p> <p>.3 give correct commands for launching and boarding survival craft, clearing the ship and handling and disembarking persons from survival craft;</p> <p>.4 prepare and safely launch survival craft and clear the ship's side quickly and operate off-load and on-load release devices;</p> <p>.5 Safely recover survival craft and rescue boats including the proper resetting of the off-load and on-load release devices using: inflatable life raft and open or enclosed lifeboat with inboard engine or approved simulator training where appropriate</p>	<p>Preparation, boarding, launching and operation of fast rescue boats is within equipment limitations and enable survival craft to clear the ship safety</p> <p>Initial actions on leaving the ship minimize threat to survival</p> <p>Recovery of survival craft and rescue boats is within equipment limitations</p> <p>Equipment in operation in accordance with manufacturers institutions for release and resetting</p>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Operate a survival craft engine	Methods of starting and operating a survival craft engine and its accessories together with the fire extinguisher provided	Assessment of evidence obtained from practical demonstration of ability to start and operate an inboard engine fitted in an open or enclosed lifeboat	Propulsion is available and maintained as required for manoeuvring
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>Appointment of food and water in survival craft</p> <p>Action taken to maximize 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 life rafts and rescue of survivors and persons in the sea</p> <p>Beach survival craft</p>	<p>Assessment evidence obtained from practical demonstration of ability to:</p> <p>.1 row and steer a boat and steer by compass;</p> <p>.2 use individual items of equipment of survival craft;</p> <p>.3 rig devices to aid location</p>	Survival management is appropriate to prevailing circumstances and conditions

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Use locating devices, including communication and signaling apparatus and pyrotechnics	Radio life-saving appliances carried in survival craft, including satellite EPIRBs and SARTs Pyrotechnic distress signals	Assessment of evidence obtained from practical demonstration of ability to: .1 use portable radio equipment for survival craft; .2 use signaling equipment, including pyrotechnics	Use and choice of communication and signaling apparatus is appropriate to prevailing circumstances and conditions
Apply first aid to survivors	Use of the first-aid kit and resuscitation techniques Management of injured persons, including control of bleeding and shock	Assessment of evidence from practical demonstration of ability to deal with injured persons both during and after abandonment, using first-aid kit and resuscitation techniques	Identification of the probable cause, nature and extent of injuries or condition is prompt and accurate Priority and sequence of treatment minimizes any threat to life

*Shipping (Manning and Certification) Regulations***PART 16**

(Regulation 40)

Global Maritime Distress and Safety System 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 subsystems and equipment and fulfilling the functional requirements of GMDSS	<p>In addition to the requirements of the Radio Regulations, a knowledge of –</p> <p>.1 search and rescue radio communications, including procedures in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual;</p> <p>.2 the means to prevent the transmission of false distress alerts and the procedures to mitigate the effects of such alerts;</p> <p>.3 Ship reporting systems;</p> <p>.4 radio medical services;</p> <p>.5 use of the International Code of Signals and the IMO Standard Marine Communication phases</p> <p>.6 the English language, both written and spoken, for the communication relevant to safety of life at sea</p> <p>Note: 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> <p>.1 approved equipment;</p> <p>.2 Global maritime distress and safety system communication simulator, where appropriate;</p> <p>.3 radio communication laboratory equipment</p>	<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, security and persons on board and protection of the marine environment are correctly handled</p>

Shipping (Manning and Certification) Regulations

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Provide radio services in emergencies	<p>The provision of radio services in emergencies such as:</p> <ul 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-ionizing radiation hazards</p>	<p>Examination and assessment of evidence obtained from practical demonstration of operational procedures using:</p> <ul 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

*Shipping (Manning and Certification) Regulations***SCHEDULE 2****FORMS****FORM 1**

(Regulation 45(2))

(Official Seal)
(COUNTRY)**CERTIFICATE**

Photograph of holder of the Certificate

The Governor of Certifies that has been found duly qualified in accordance with the provisions of regulation of the shipping (Manning and Certification) Regulations, 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 this certificate as may be shown overleaf:

FUNCTION	LEVEL	LIMITATIONS APPLYING (IF ANY)

The lawful holder to this certificate may serve in the following capacity or capacities specified in the applicable safe manning requirements of the Minister or any person authorised by the Minister:

CAPACITY	LIMITATIONS APPLYING (IF ANY)

Certificate No. Issued on

(Official Seal)

.....
Signature of duly authorized official.....
Name of duly authorized official

Shipping (Manning and Certification) Regulations

The original of this certificate must be kept available in accordance with the Shipping (Manning and Certification) Regulations while serving on a ship.

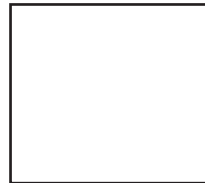
Date of birth of the holder of the certificate

Signature of the holder of the certificate

The validity of this certificate is hereby extended until	
.....	
(Official seal)	Signature of duly authorized official
Date of revalidation	Name of duly authorized official
The validity of this certificate is hereby extended until	
.....	
(Official seal)	Signature of duly authorized official
Date of revalidation	Name of duly authorized official

*Shipping (Manning and Certification) Regulations***FORM 2**

(Regulation 46(4))

FORM OF ENDORSEMENT ATTESTING THE ISSUE OF A CERTIFICATE(Official Seal)
(COUNTRY)**CERTIFICATE**

Photograph of holder of the certificate

The Governmentcertifies that certificate No. has been issued to who has been found duly qualified in accordance with the provisions of regulation 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 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 Minister or any person authorised by the Minister:

CAPACITY	LIMITATIONS APPLYING (IF ANY)

Endorsement No. Issued on

(Official Seal)

.....
Signature of duly authorized official.....
Name of duly authorized official

Shipping (Manning and Certification) Regulations

The Original of this endorsement must be kept available while serving on a ship.

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

Signature of the holder of the certificate

<p>The validity of this endorsement is hereby extended until</p> <p>(Official Seal)</p> <p>Signature of duly authorized official</p> <p>Date of revalidation</p> <p>Name of duly authorized official</p>
--

<p>The validity of this endorsement is hereby extended until</p> <p>(Official Seal)</p> <p>.....</p> <p>Signature of duly authorized official</p> <p>Date of revalidation</p> <p>.....</p> <p>Name of duly authorized official</p>
--

*Shipping (Manning and Certification) Regulations***FORM 3**

(Regulation 48(3))

(Official Seal)

(COUNTRY)

ENDORSEMENT ATTESTING THE RECOGNITION OF A CERTIFICATE

Photograph of holder of the certificate



The Government certifies that certificate No. has been issued to who has been found duly qualified in accordance with the provisions of regulation of the above Convention, 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 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 Minister or any person authorised by the Minister:

CAPACITY	LIMITATIONS APPLYING (IF ANY)

Endorsement No. Issued on

(Official Seal)

.....
Signature of duly authorized official.....
Name of duly authorized official

Shipping (Manning and Certification) Regulations

The Original of this endorsement must be kept available while serving on a ship.

Date of birth of the holder of the certificate

Signature of the holder of the certificate

<p>The validity of this endorsement is hereby extended until</p> <p>(Official seal)</p> <p>Signature of duly authorized official</p> <p>Date of revalidation</p> <p>Name of duly authorized official</p>
<p>The validity of this endorsement is hereby extended until</p> <p>(Official seal)</p> <p>Signature of duly authorized official</p> <p>Date of revalidation</p> <p>Name of duly authorized official</p>

*Shipping (Manning and Certification) Regulations***FORM 4**

(Regulation 52(2))

SAINT LUCIA INTERNATIONAL SHIP REGISTRY

*The Saint Lucia Shipping Act Cap. 13.27
Division of Maritime Affairs*

APPLICATION FOR SAFE MANNING CERTIFICATE

Vessel Details		
Name of vessel	<i>IMO or Carib Ship* Number (*where applicable)</i>	<i>Official Number (if assigned)</i>
<i>Type of Vessel</i>	<i>Total Engine Power (K W)</i>	<i>Intended GMDSS Sea Areas in which the ship will sail (for ships over 300GT)</i>
<i>Gross Tonnage</i>	<i>Length (as per tonnage Certificate) (m)</i>	<i>Unattended Machinery Space (UMS)</i>
<i>ITC</i>		
<i>National</i>		
<i>Trading Area: UNRESTRICTED RESTRICTED (if restricted give details, including any conditions imposed by Class on the sailing area / sea conditions)</i>		

Details of owner	
Full Name of owner	

Shipping (Manning and Certification) Regulations

IMO Number	
------------	--

PROPOSED MINIMUM COMPLEMENT					
DECK			ENGINE		
Rank	STCW reg.	No.	Rank	STCW reg.	No.
MASTER			MASTER		
CHIEF OFFICER			SECOND ENGINEER		
OFFICER IN CHARGE OF WATCH (OoW)			OFFICER IN CHARGE OF WATCH (OoW)		
WATCH RATING			WATCH RATING		
ORDINARY SEAFARER					

Signature of Applicant

Print Name

.....

.....

Date of Application

Title

.....

.....

Shipping (Manning and Certification) Regulations

SCHEDULE 3

(Regulation 51(8))

DECK DEPARTMENT: Vessels Greater Than 500 GT

	500 – 999 GT			1000 – 2999 GT 3000 – 9999 GT						Over 10000 GT			Over 250 passengers		
	Re- stric- ted voy- ages	Un-re- stric- ted voy- ages		Re- stric- ted voy- ages	Un- re- stric- ted voy- ages	res- tric- ted voy- ages	Un- re- stric- ted voy- ages		Un- re- stric- ted voy- ages		Re- stric- ted voy- ages	Un- Re- stric- ted voy- ages	Res- tric- ted voy- ages	Un-re- stric- ted voy- ages	
	S T C W		S T C W	S T C W	S T C W	S T C W	S T C W	S T C W	S T C W	S T C W	S T C W	S T C W	S T C W	S T C W	S T C W
	N b r	N b r		N b r	N b r		N b r		N b r		N b r	N b r	N b r	N b r	
		G r a d e		G r a d e		G r a d e		G r a d e		G r a d e		G r a d e		G r a d e	
Master	1 1 / 1	1 1 /	1 1 2 /	1 1 1 2	1 1 1 2	1 1 1 2	1 1 1 2	/	1 1 1 2	1 1 1 2	1 1 1 2	1 1 1 2	1 1 1 2	1 1 1 2	1 1 1 2
Chief Mate	0 1 1	1 1 /	1 1 2	1 1 /	1 1 2	1 1 /	1 1 2	1 1 /	1 1 2	1 1 /	1 1 2	1 1 /	1 1 2	1 1 /	1 1 2
OOW	1 * 1	1 * 1	/	1 * 1	1 * 1	1 * 1	1 * 1	1 * 1	/	1 * 1	1 * 1	1 * 1	1 * 1	1 * 1	1 * 1
Watch- rating	2 1 /	1 1 4	1 1 4	2 1 /	1 1 4	3 1 /	1 1 4	3 1 /	1 1 4	3 1 /	1 1 4	2 1 /	1 1 4	3 1 /	1 1 4
Ordin- ary Seaman	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	1 1	2 2	2 2	3 3	3 3	3 3	3 3
Total	4	4	4	6	5	7	7	7	9	19	10				

Shipping (Manning and Certification) Regulations

* The Minister of a person authorized by the Minister may review vessel's trade and traffic area and vessel type and may request one (1) OOW be added oow-Officer in charge of Watch.

Watch Rating – Ratings forming part of a Navigational Watch certified under STCW reg. A-II/4

Restricted Voyages: These areas may be considered as Restricted Areas:

1. All voyages which do not exceed 48 hours between ports of call;
2. Voyages within 100 nm from the nearest shore;
3. Enclosed areas, which may include, but are not limited to:
 - Mediterranean Sea
 - Red Sea
 - Black Sea
 - North Sea
 - Baltic Sea
 - Caribbean (restricted areas I, II and/or III, as defined in CCSS Code)
 - Caspian Sea
 - Azov Sea
 - Gulf of Aden
 - Persian Gulf

NOTE: In the above cases the geographical limits of the above sea areas may be defined in more detail.

4. The Minister or person authorised by the Minister will take into consideration additional restricted trade areas submitted by the owner or operator.

Unrestricted Voyages: Unrestricted International Voyages

GMDSS: ships over 300GT

Vessels equipped with **Radio Installations** for the following GMDSS sea areas shall carry the following number of certified Radio Personnel:

- Area A1 – at least one officer with Restricted Operator Certificate (ROC)*
- Area A2 – at least one officer with General Operator Certificate (GOC)* or one dedicated radio officer with GOC
- Areas A3 or A4 – at least two officers with GOC* or one dedicated radio officer with GOC

Shipping (Manning and Certification) Regulations

* may be the Master or other deck officer.

Passenger ships carrying up to 250 passengers shall follow the tables for cargo ships of the same size.

INTERNATIONAL SHIP & PORT SECURITY (ISPS) CODE – SHIP SECURITY OFFICERS

All ship security officers and deputy security officers on board Saint Lucia flagged vessels to which the ISPS Code applies shall have a certificate issued by a State whose certificates are recognised by Saint Lucia. States are those on the STCW whitelist.

DECK DEPARTMENT: Vessels Less Than 500 GT

	1 - 99 GT				100 - 499 GT			
	Up to 100 NM from nearest shore		More than 100 NM from nearest shore		Up to 100 from NM nearest shore		More than 100 NM from nearest shore	
	Nbr	STCW	Nbr	STCW	Nbr	STCW	Nbr	STCW
		Grade		Grade		Grade		Grade
Master	1**	II/3	1	II/3	1	II/3	1	II/3
Chief Mate	0		0		0		0	
OOW	0		1**	II/3	1	1 1/4	2	II/3
Watch Rating	1	II/4	0		1	1 1/4	2	II/4
Ordinary Seaman	0		0		0		0	
TOTAL	2		2		3		4	

** On ships below 24m in length trading in the Caribbean Trading Area this may be a holder of Boat Master Licence, Grade 1 under SCV Code reg. IX/3

Vessels less than 500 GT but more than 300 GT equipped with GMDSS *Radio Installations* shall carry the number of certified Radio Personnel as indicated previously.

Vessels less than 300 GT operating in the following trading areas shall carry the following number of certified Radio Personnel, who may be the Master or other deck officers:

Shipping (Manning and Certification) Regulations

- Up to 20 NM from shore - at least one Radiotelephone Restricted Operator (VHF)
- Over 20 NM from shore - at least one Radiotelephone General Operator (VHF/HF/MF)

ENGINE DEPARTMENT

	Less than 750 KW				750 - 2999 KW				3000 KW or more			
	Restricted voyages		Un restricted voyages		Restricted voyages		Un restricted voyages		Restricted voyages		Unrestricted voyages	
	Nbr	STCW G R A D E	Nbr	STCW G R A D E	Nbr	STCW G R A D E	Nbr	STCW G R A D E	Nbr	STCW G R A D E	Nbr	STCW G R A D E
Chief Engineer	1 * *	III / 1	1 * *	III / 1	1 /	III / 3	1 /	III / 3	1 /	III / 2	1 /	III / 2
Second Engineer	0		0		0 * * *		1 *	III / 3	1 *	III 1 2	1	III / 2
OOW	1 *	III / 1	1 *	III / 1	1 *	III / 1	0 * * *		0 * * *		1 *	III / 1
Watch Rating	0 ^		0 ^		1 ^	III / 4	2 * ^	III / 4	2 * ^	III / 4	2 * ^	III / 4
TOTAL	2		2		3		4		4		5	

* Manning may be reduced by this rank if vessel is classed with UMS

** The Chief Engineer position required for vessels < 750 KW may be covered as a minimum by an OOW certified under these Regulations

*** The Minister or a person authorized by the Minister may review the vessel's trade and traffic area and vessel type and may request one additional Second Engineer or OOW ^ Tankers of 1000 GT or more shall add one additional Watch Rating

Watch Rating – Rating forming part of an Engine Room Watch or designated to perform duties in a periodically unmanned engine room and certified under these Regulations.

Shipping (Manning and Certification) Regulations

ENGINE DEPARTMENT: Vessels less than 24 m length trading in the Caribbean Trading Area

Boat Engineer Grade 1	Protected Waters	Coastal Waters	Exposed Waters
Boat Engineer Grade	0	0	1
No Licence	1*	1	0
TOTAL	1	2	2

* If engine power is 350 kW or more the Minister or a person authorized by the Minister may require that Engineer holds a Boat Engineer Grade 2 licence under these regulations

Protected Waters - an area of sheltered waters presenting no special hazards such as most rivers, harbours and lakes, designated by the Minister or a person authorized by the Minister for the operation of small vessels and, where not so designated, means an area not more than 3 miles from a safe haven.

Coastal Waters - an area designated as such by the administration and where this is not so designated it means an area not more than 20 miles from a safe refuge.

Exposed Water - any waters more than twenty nautical miles from a harbour or safe refuge and which are not designated coastal or protected waters.

Made this 4th day of June, 2020.

STEPHENSON KING,
Minister responsible for shipping.