



Maritime and Coastguard Agency

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## TRAINING AND CERTIFICATION GUIDANCE – PART 11

### Conduct of MCA Oral Examinations

Notice to Owners, Masters, Deck and Engineer Officers and Ratings of Merchant Vessels and those concerned with Maritime Training.

*This Note should be read in conjunction with Merchant Shipping Notices Nos M 1558, MSN 1692(M) and MSN 1727(M) (or subsequent amendments).*

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#### *Summary*

This Marine Guidance Note (MGN) is part of a series which gives guidance regarding the application of the Merchant Shipping (Training and Certification) Regulations 1997<sup>1</sup>.

In order for the guidance to be easy to use and to keep up-to-date, the individual Parts will retain the same Part number but the MGN number may change if and when revisions are necessary. The front sheet of any revised Part will list the latest MGN numbers. Any reference to "Part" in this Note relates to this series of Guidance Notes as listed below.

#### *Key Point*

This Part provides information and guidance concerning the conduct of MCA oral examinations and sets out the oral examination syllabuses for STCW 95 certificates of competency.

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5	Special training requirements for personnel on certain types of ship	MGN 95 (M)	April 2000
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<sup>1</sup> SI 1997/348 as amended by SI 1997/1911

7	Alternative certification - dual certification	MGN 7 (M)	April 2000
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15	Certification of inshore tug personnel	MGN 117 (M)	April 2000
16	Certification of inshore craft personnel (other than tugs)	MGN 126 (M)	Not yet issued

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*All references to "Parts" in this document are to other Parts of this series of Training and Certification Guidance Notes*

## **1.0 General**

- 1.1 The Merchant Shipping (Training and Certification) Regulations 1997 (the Regulations) implement in the United Kingdom some of the requirements of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978, as amended in 1995 (STCW 95)<sup>2</sup> and its associated Code (STCW code). STCW 95 and the Regulations introduce a new certificate structure applicable to masters, deck and engineer officers and ratings, which is explained fully in other Parts of this series of Guidance Notes.
- 1.2 The issue of a certificate of competency, particularly a first certificate, is generally the final stage in the following procedure:
- .1 demonstration of the required standard of physical fitness (by passing a medical examination/sight test);
  - .2 completion of the initial training requirements;
  - .3 completion of the appropriate watchkeeping and/or sea-service;
  - .4 successful completion of the approved training programmes and assessments;
  - .5 successful completion of all ancillary training as set out in Part 2 (deck) and 3 (engineer)
  - .6 success in the MCA oral examination (not required for ratings certification under STCW 95 Regulations II/4 and III/4).
- 1.3 The MCA oral examination is aimed at ensuring the candidate's ability to undertake the duties appropriate to the officer of the watch (OOW), chief mate, master, second engineer or chief engineer. Oral examinations are part of the procedure for the attainment of all MCA certificates of competency, and all candidates must demonstrate an adequate knowledge of the English language.
- 1.4 The examination syllabuses are divided into topics. Each topic contains a group of tasks, duties and responsibilities considered necessary for ship operation, safety of life at sea or protection of the marine environment. As indicated in the preamble to each examination syllabus, the examination will be conducted from a particular perspective, and this will be based upon the level of responsibility assumed, i.e. either management level (master, chief engineer, chief mate or second engineer) or operational level (officer in charge of a navigational or engineering watch).
- 1.5 Candidates seeking STCW 95 certificates of competency as a **deck officer** will follow the oral examination syllabuses A–E contained at Appendix A of this Note. At the date of this MGN, syllabuses F–H are still being developed. Further details of requirements for deck officers are set out in Part 2.
- 1.6 Candidates seeking STCW 95 certificates of competency as a **marine engineer officer** will follow the oral examination syllabuses contained at Appendix B of this Note. Further details of requirements for engineer officers are set out in Part 3.
- 1.7 Appendix C to this Note contains addresses of the MCA Marine Offices where oral examinations are held.
- 1.8 Until 31 December 1999, candidates who commenced sea-going service or approved education and training programmes prior to 1 August 1998 were examined using the oral syllabuses required for STCW 78 certificates of competency Classes 1 to 5. Resits will be allowed until 31 December 2000.

## **2.0 Applications for MCA Oral Examinations**

- 2.1 Before being admitted to the MCA oral examination candidates must be in possession of a **Notice of Eligibility (NOE)**. Details of the application procedure for obtaining a Notice of Eligibility can be found in Part 9. This NOE will be required by the MCA examiner as evidence

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<sup>2</sup> Available from the Publications Department, International Maritime Organization, 4 Albert Embankment, London SE1 7SR

that the candidate fulfils the oral examination entry requirements, and must be sent to the Marine Office undertaking the examination when making an appointment. A candidate attending college may arrange for an oral examination appointment through the college.

- 2.2 A candidate not attending college should apply for an appointment by sending the NOE to the Marine Office of his or her choice, (listed at Appendix C) stating a range of dates when he or she is available for examination, although it cannot be guaranteed that an examination will be arranged on one of the requested dates. As wide a range of dates as possible should be given to afford the examiner the maximum opportunity to arrange an appointment convenient to the candidate.
- 2.3 A NOE is only valid for one oral examination attempt. A new one should be obtained for any subsequent attempt (see paragraph 3.6 below).
- 2.4 When attending for examination, the following documents should be produced for scrutiny by the examiner:
- a. Notice of Eligibility;
  - b. discharge book or passport (if a discharge book is not held);
  - c. certificate of competency (if one is held);
  - d. Deck or Engineer (as appropriate) Record Book, if an approved course of training has been followed, or Vocational Qualification (VQ) portfolio of evidence (as appropriate).

### **3.0 Conduct of Oral Examinations**

- 3.1 The oral examination will **in all cases** be conducted in English by an examiner from the MCA, generally at an MCA Marine Office. However, where appropriate, MCA has the discretion to use other venues.
- 3.2 Examiners will use the appropriate examination syllabuses, as detailed in paragraphs 1.5 to 1.6 above.
- 3.3 The result of the oral examination will be entered on the NOE by the MCA examiner. A candidate failing the oral examination will receive verbal feedback from the examiner, indicating the function(s)/topic(s) in which the candidate was deemed to have failed.
- 3.4 A candidate passing the oral examination, and holding a NOE carrying a red endorsement to the effect that they have met all the requirements for the issue of a certificate of competency prior to attending the oral examination, should give their existing certificate of competency (if held) to the examiner, who will make arrangements for a certificate of competency to be issued within three working days.
- 3.5 A candidate passing the oral examination, but not holding a NOE carrying the red endorsement, will have the Notice returned to him or her. The Notice should be retained until all the requirements have been met and should be sent together with relevant documentation and existing certificate of competency ( if held) to the Seafarer Standards Branch of the MCA at the address given at the beginning of this MGN.
- 3.6 If a candidate fails the oral examination and wishes to resit the examination, the NOE ( showing the "failed" entry) together with the relevant fee, should be sent to the Seafarer Standards Branch, and a new NOE will be issued. Candidates will not be re-examined within two weeks of having failed.
- 3.7 A candidate failing the oral examination through serious weakness may, at the examiner's discretion, be given a time penalty which may include a requirement to complete a period of sea service before becoming eligible to re-sit the examination.
- 3.8 A candidate not appearing for an oral examination at the appointed time may be failed by default unless reasonable proof can be provided that the failure to attend was unavoidable.
- 3.9 Any candidate involved in irregular behaviour (such as cheating) will be failed in the oral examination, and the circumstances reported to the MCA's Chief Examiner. The circumstances of reported cases will be considered individually and such consideration may result in the candidate being barred from sitting the oral examination, either for a specific period, or until further sea service has been completed by the candidate.

### **4.0 Further Advice**

- 4.1 Further information, if required, is may be obtained from the MCA at any Marine Office or at the address given at the beginning of this MGN.

**STCW 95 DECK ORAL EXAMINATION SYLLABUSES**

STCW Reg - II/3  
OOW - NEAR-COASTAL - SHIPS UNDER 500GT

SYLLABUS DECK - E

Candidates should demonstrate the ability to apply the knowledge outlined in this oral examination syllabus by appropriate responses, anticipations and reactions to a range of routine, non-routine and contingency scenarios as presented by the examiner, from the perspective of **OOW - Near-Coastal - Ships Under 500gt**.

**TOPIC 1                      NAVIGATION**

**.1 Plan and Conduct a Passage Including Position Determination**

- a) passage planning with respect to the use of navigational publications including navigational charts, sailing directions, light lists, tide tables, radio navigational warnings and ships' routing information;
- b) the requirements of ship routing and mandatory reporting systems;
- c) maritime buoyage systems - IALA region 'A';
- d) radar - practical use of, modes of operation, sources of error and parallel indexing;
- e) to use an azimuth mirror for taking bearings, including the determination of compass errors;
- f) operational limitations of the navigational equipment commonly fitted on board.

**.2 Maintain a Safe Navigational Watch**

- a) a thorough knowledge of the principles of navigational watchkeeping at sea, including under pilotage, and watchkeeping at anchor and in port;
- b) a thorough knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea;
- c) knowledge of steering control systems, including automatic pilot, operational procedures and change-over from manual to automatic control and vice-versa, adjustment of controls for optimum performance;
- d) radar - practical use of, modes of operation, sources of error, plotting and parallel indexing;
- e) meteorology: ability to use and interpret information obtained from shipborne meteorological instruments, knowledge of the characteristics of the various weather systems, reporting procedures and recording systems, ability to apply the meteorological information available.
- f) the use of all bridge equipment commonly fitted on board the ships concerned.

**.3 Compasses**

- a) use and limitations of compasses commonly fitted on board the ship concerned.

**.4 Manoeuvre the Ship**

- a) preparation for getting under way, duties prior to proceeding to sea, making harbour, entering a dock, berthing alongside quays, jetties, or other ships, and securing to buoys;
- b) helm orders, conning the ship, effects of propellers on the steering of a ship, effects of wind and current, stopping, going astern, turning short round, interaction and squat;
- c) action in event of failure of: - bridge control, telegraph or steering; emergency steering arrangements;
- d) onboard procedures for anchoring.

## **TOPIC 2                    CARGO HANDLING AND STOWAGE**

### **.1 Loading and Unloading of Cargoes**

- a) use and care of synthetic fibre and wire ropes, ascertaining of safe-working loads;
- b) basic knowledge of regulations and recommendations affecting cargo handling, stowage, securing and carriage, including the IMDG Code;
- c) use of the hydrometer.

## **TOPIC 3                    RESPONSE TO EMERGENCIES**

### **.1 Response to Navigational Emergencies**

- a) initial action following: man overboard, collision, grounding, flooding or major mechanical damage and receipt of a distress message; initial damage assessment and control, protection of the marine environment;
- b) precautions for the protection and safety of passengers in emergency situations;
- c) use of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual (Volume III), distress and emergency signals;
- d) use of International Code of Signals;
- e) emergency communications within the GMDSS regulations.

### **.2 Response to Other Emergencies**

- a) emergency organisational procedures commonly found on board the ships concerned;
- b) knowledge of fire prevention;
- c) knowledge of classes and chemistry of fire;
- d) knowledge of fire-fighting systems commonly found on board the ships concerned;
- e) understanding of action to be taken in the event of fire, including fires involving oil;
- f) use and care of life-saving appliances and equipment including portable radios, EPIRBs, SARTs, immersion suits and thermal protective aids, and rocket line throwing apparatus;
- g) correct use of distress signals and awareness of penalties for misuse;
- h) operation of survival craft and rescue boats;
- i) knowledge of survival at sea techniques;
- j) knowledge of contents of LSA training manuals;
- k) ability to organise abandon ship drills;
- l) sources of medical information available.

## **TOPIC 4                    ONBOARD SHIP OPERATIONS**

### **.1 Pollution Prevention Requirements**

- a) precautions to be taken to prevent pollution of the marine environment as required by the MARPOL Conventions, including Restricted Areas;
- b) basic understanding of the SOPEP manual and Garbage Management Plans.

### **.2 Seaworthiness of the Ship**

- a) understand fundamentals of water tight integrity, and the closing of all openings including hatch covers, access hatches and watertight doors;
- b) preparations for heavy-weather;
- c) working knowledge of the use of stability and trim information on board small vessels.

### **.3 Legislative Requirements**

- a) contents and use of Merchant Shipping Notices, Marine Guidance Notes, Marine Information Notes and the Annual Summary of Admiralty Notices to Mariners;
  - b) knowledge and application of current Merchant Shipping Health and Safety legislation and the Code of Safe Working Practices for Merchant Seamen;
  - c) purpose of the International Safety Management (ISM) Code;
  - d) purpose of Flag State and Port State Control.
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**STCW Reg - II/3 AND II/2**

**SYLLABUS DECK - D**

**MASTER - NEAR-COASTAL - SHIPS UNDER 500GT**

**CHIEF MATE - NEAR-COASTAL - SHIPS UNDER 3,000GT**

**CHIEF MATE - UNLIMITED - SHIPS UNDER 3,000GT**

Candidates should demonstrate the ability to apply the knowledge outlined in this oral examination syllabus and oral examination syllabus **Deck- E**, by the appropriate responses, anticipations and reactions to a range of routine, non-routine and contingency scenarios as presented by the examiner, from the perspective of **MASTER - Near-Coastal - Ships under 500gt** or **CHIEF MATE - Unlimited - Ships under 3,000gt** (STCW Reg - II/2) or **CHIEF MATE - Near-Coastal - Ships under 3,000gt** as appropriate.

### **TOPIC 1 NAVIGATION**

#### **.1 Plan and Conduct Safe Navigation**

- a) demonstrate an ability to undertake voyage planning, taking into consideration:
  - i) restricted waters;
  - ii) meteorological conditions, through the interpretation of a synoptic chart, and to forecast local area weather, the characteristics of various weather systems;
  - iii) restricted visibility;
  - iv) the requirements of ship routing and mandatory reporting systems;
  - v) reporting in accordance with ship reporting systems;
- b) limitations of electronic chart systems including ECDIS and RCDS navigational chart systems;
- c) port radio information services: knowledge of the types of service available to aid vessels entering ports, berthing, VTIS and VTS services, as indicated in The Admiralty List of Radio Signals - Vessel Traffic Services, Port Operations and Pilot Stations;
- d) maritime buoyage systems - IALA region 'A'.

#### **.2 Establish & Maintain Safe Watchkeeping Arrangements and Procedures**

- a) a thorough knowledge of the principles of navigational watchkeeping at sea, including under pilotage, and watchkeeping at anchor and in port;
- b) a thorough knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea;
- c) knowledge of principles of establishing a safe engineering watch at sea, anchor and in port.

#### **.3 Compasses**

- a) compasses commonly fitted on board the ships concerned - variation and deviation, causes and effects, siting of other equipment with reference to magnetic compasses;
- b) knowledge of the purpose of correctors/corrections.

#### **.4 Manoeuvre the Ship and Operate Small Ship Power Plants**

- a) anchoring and working anchors and cables in all circumstances;
- b) proper procedures for berthing and unberthing;
- c) knowledge of factors affecting safe manoeuvring and handling;
- d) knowledge of the operation of small ship power plants and auxiliaries.

## **TOPIC 2 CARGO HANDLING AND STOWAGE**

### **.1 Cargo Handling, Stowage, Securing and Care**

- a) knowledge of the regulations and recommendations affecting cargo handling, stowage, securing and carriage;
- b) use of the IMDG Code.

## **TOPIC 3 RESPONSE TO EMERGENCIES**

### **.1 Response to Navigational Emergencies**

- a) action to be taken when disabled and in distress, abandoning ship, survival procedure, use of rockets and rocket apparatus;
- b) measures to be taken following collision, grounding, heavy weather damage and leaks including the possibility of beaching a ship;
- c) towing and being towed;
- d) knowledge of emergency steering systems;
- e) knowledge of search and rescue procedures, assisting a ship or aircraft in distress, rescuing the passengers and crew of a disabled ship or ditched aircraft;
- f) use of the International Aeronautical and Marine Search and Rescue (IAMSAR) Manual (Volume III), distress and emergency signals;
- g) Search and Rescue (SAR) plans for passenger ships;
- h) emergency communications within the GMDSS regulations.

### **.2 Response to Other Emergencies**

- a) methods of dealing with fire onboard ship; prevention of fire at sea and in port;
- b) use and maintenance of fire-fighting equipment, fire dampers, doors and screens, and detection equipment;
- c) the organisation and direction of fire-fighting drill training;
- d) launch and manage survival craft, recover rescue boats at sea;
- e) the organisation and direction of life-boat and life-raft drill training;
- f) understand the fundamental actions to be taken in the event of partial loss of intact buoyancy;
- g) precautions for the protection and safety of passengers in emergencies;
- h) appreciation of action to be taken when emergencies arise in port;
- i) sources of medical information available.

## **TOPIC 4 ON BOARD SHIP OPERATIONS**

### **.1 Pollution Prevention Requirements**

- a) precautions to be taken to prevent pollution of the marine environment as required by the MARPOL Conventions, including Restricted Areas;
- b) take appropriate action in response to pollution incidents onboard and found at sea;
- c) knowledge of the contents of the SOPEP manual, Garbage Management Plans, and anti-pollution equipment;
- d) master's duties, obligations and liabilities, including the keeping of records.

### **.2 Seaworthiness of the Ship**

- a) precautions to be taken before the onset of heavy weather, management of small ships in heavy weather, handling a disabled ship;
- b) understand the fundamentals of water tight integrity;



- c) preparation for dry-docking and undocking, with and without cargo/damage - general procedure and precautions to be observed;
- d) working knowledge of stability and trim information.

### **.3 Legislative Requirements**

- a) contents and use of Merchant Shipping Notices, Marine Guidance Notes, Marine Information Notes and the Annual Summary of Admiralty Notices to Mariners;
- b) knowledge of the application of current Merchant Shipping Health and Safety legislation, including the Code of Safe Working Practices for Merchant Seamen, and the main elements of Risk Assessment;
- c) knowledge of the relevant IMO conventions concerning safety of life at sea and protection of the marine environment;
- d) crew agreements, the official log book and the law relating to entries, inspection of living quarters and storerooms, complaints procedure;
- e) reports required by the Marine Accident Investigation Branch (MAIB);
- f) Load-line marks - entries and reports in respect of freeboard, draft and allowances;
- g) the requirements of the regulations concerning life-saving and fire-fighting appliances;
- h) application of hours of work and rest legislation;
- i) the law relating to the reporting of dangers to navigation;
- j) a knowledge of the master's obligations with respect to pilotage;
- k) purpose and application of the International Safety Management (ISM) Code;
- l) purpose of Flag State and Port State Control.

**STCW Reg - II/I  
OOW - SHIPS OF 500GT AND ABOVE**

**SYLLABUS DECK - C**

Candidates should demonstrate the ability to apply the knowledge outlined in this oral examination syllabus by appropriate responses, anticipations and reactions to a range of routine, non-routine and contingency scenarios as presented by the examiner, from the perspective of **OOW - Ships of 500gt and above**.

## **TOPIC 1                      NAVIGATION**

### **.1 Plan and Conduct a Passage Including Position Determination**

- a) passage planning with respect to the use of navigational publications including navigational charts (including ECDIS and RCDS), sailing directions, light lists, tide tables, radio navigational warnings and ships' routing information;
- b) the requirements of ship routing and mandatory reporting systems;
- c) IALA systems of maritime buoyage;
- d) electronic navigational systems - limitations and sources of error, methods of correction;
- e) limitations of electronic chart systems including ECDIS and RCDS navigational chart systems;
- f) radar and ARPA - practical use of, modes of operation, limitations, sources of error and parallel indexing;
- g) to use an azimuth mirror for taking bearings, including the determination of compass errors;
- h) to use a sextant, identify and correct errors;
- i) sources of meteorological information, ability to use and interpret information obtained from ship borne meteorological instruments (the instruments supplied by the Meteorological Office will be taken as standard), knowledge of characteristics of various weather systems, reporting and recording systems.

### **.2 Maintain a Safe Navigational Watch**

- a) a thorough knowledge of the principles of navigational watchkeeping at sea, including under pilotage, and watchkeeping at anchor and in port;

- b) a thorough knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea;
- c) radar and ARPA - practical use of, modes of operation, limitations, sources of error, plotting and parallel indexing;
- d) understand the use of bridge equipment, including rate of turn indicators, course recorders, echo sounders and NAVTEX;
- e) knowledge of steering control systems, including automatic pilot, operational procedures and change-over from manual to automatic control and vice-versa - adjustment of controls for optimum performance;
- f) knowledge and application of the ICS Bridge Procedures Guide.

### **.3 Compasses**

- a) use, care and limitations of the magnetic and gyro compasses, and associated equipment, including automatic pilot.

### **.4 Manoeuvre the Ship**

- a) preparation for getting under way, duties prior to proceeding to sea, making harbour, entering a dock, berthing alongside quays, jetties, or other ships, and securing to buoys;
- b) use and care of mooring lines and associated equipment;
- c) helm orders, conning the ship, effects of propellers on the steering of a ship, effects of wind and current, stopping, going astern, turning short round, interaction and squat, manoeuvring in the vicinity of pilot vessels and other craft, embarking and disembarking a pilot;
- d) action in event of failure of:- bridge control, telegraph or steering; emergency steering arrangements.
- e) proper procedures for anchoring.

## **TOPIC 2 CARGO HANDLING AND STOWAGE**

### **.1 Loading and Unloading of Cargoes**

- a) use and care of synthetic fibre and wire ropes, ascertaining of safe-working loads;
- b) basic knowledge of the regulations and recommendations affecting cargo handling, stowage, securing and carriage, including the IMDG Code;
- c) use of the hydrometer.

## **TOPIC 3 RESPONSE TO EMERGENCIES**

### **.1 Response to Navigational Emergencies**

- a) initial action following: man overboard, collision, grounding, flooding or major mechanical damage, and receipt of a distress message; initial damage assessment and control, protection of the marine environment;
- b) precautions for the protection and safety of passengers in emergency situations;
- c) use of the International Aeronautical and Marine Search and Rescue (IAMSAR) Manual (Volume III), distress and emergency signals; Search And Rescue around the UK and world-wide.

### **.2 Response to Other Emergencies**

- a) understanding of the organisational procedures for emergency parties and drills;
- b) knowledge of fire prevention, use and care of fire-fighting appliances, the shut-down and isolation of plant and equipment, escape and breathing apparatus, fire and safety plans;
- c) knowledge of classes and chemistry of fire;

- d) understanding of action to be taken in the event of fire including fires involving oil;
- e) use and care of life-saving appliances and equipment including hand held radios, EPIRBs, SARTs, immersion suits and thermal protective aids, and rocket line throwing apparatus;
- f) meaning of markings on survival craft and associated equipment;
- g) correct use of distress signals and awareness of penalties for misuse;
- h) launch and manage survival craft, recover rescue boats at sea;
- i) precautions for the protection and safety of passengers in emergencies;
- j) knowledge of the contents of SOLAS training manuals and maintenance logs;
- k) basic principles of survival;
- l) appreciation of action to be taken when emergencies arise in port;
- m) sources of medical information available.

### .3 Communications

- a) use of distress and emergency signals, International Code of Signals and the IMO Standard Marine Communication Phrases;
- b) emergency communications within the GMDSS regulations.

## TOPIC 4 ONBOARD SHIP OPERATIONS

### .1 Pollution Prevention Requirements

- a) precautions to be taken to prevent pollution of the marine environment as required by the MARPOL conventions, including Restricted Areas and the disposal of pollutants;
- b) basic understanding of the SOPEP manual, Garbage Management Plan and anti-pollution equipment.

### .2 Seaworthiness of the Ship

- a) understand fundamentals of watertight integrity, and the closing of all openings including hatch covers, access hatches and watertight doors;
- b) preparations for heavy weather.

### .3 Legislative Requirements

- a) contents and use of Merchant Shipping Notices, Marine Guidance Notes, Marine Information Notes and Annual Summary of Admiralty Notices to Mariners;
- b) knowledge and application of current Merchant Shipping Health and Safety legislation, and the Code of Safe Working Practices for Merchant Seamen;
- c) basic knowledge of relevant IMO conventions concerning safety of life at sea, and protection of the marine environment.
- d) purpose and application of the International Safety Management (ISM )Code;
- e) purpose of Flag State and Port State Control.

STCW Reg - II/2

SYLLABUS DECK - B

CHIEF MATE - UNLIMITED and MASTER - UNLIMITED - SHIPS LESS THAN 3,000GT

Candidates should demonstrate the ability to apply the knowledge outlined in this oral examination syllabus and oral examination syllabus **Deck - C**, by the appropriate responses, anticipations and reactions to a range of routine, non-routine and contingency scenarios as presented by the examiner, from the perspective of **CHIEF MATE** and **MASTER**.

## TOPIC 1

## NAVIGATION

### .1 Plan and Conduct Safe Navigation

- a) passage planning with respect to the use of navigational publications including navigational charts (including ECDIS and RCDS), sailing directions, light lists, tide tables, radio navigational warnings and ships' routeing information;
- b) the requirements of ship routeing and mandatory reporting systems;
- c) IALA systems of maritime buoyage;
- d) electronic navigational systems - limitations and sources of error, methods of correction;
- e) radar and ARPA - practical use of, modes of operation, limitations, sources of error and parallel indexing;
- f) sources of meteorological information, ability to use and interpret information obtained from ship borne meteorological instruments, (the instruments supplied by the Meteorological Office will be taken as standard), knowledge of characteristics of various weather systems, reporting and recording systems.

### .2 Establishing Safe Navigational Watchkeeping Arrangements and Procedures

- a) a thorough knowledge of the principles of navigational watchkeeping at sea, including under pilotage, and watchkeeping at anchor and in port;
- b) a thorough knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea;
- c) conduct in and near traffic separation schemes and vessel traffic service (VTS) areas;
- d) understand the use of bridge equipment, including rate of turn indicators, course recorders, echo sounders and NAVTEX;
- e) knowledge of steering control systems, including automatic pilot, operational procedures and change-over from manual to automatic control and vice-versa, adjustment of controls for optimum performance;
- f) knowledge and application of the ICS Bridge Procedures Guide;
- g) a knowledge of principles of establishing a safe engineering watch at sea, anchor and in port.

### .3 Compasses

- a) use, care and limitations of the magnetic and gyro compasses, and associated equipment including automatic pilot.

### .4 Manoeuvre the Ship

- a) conning the ship, effects of wind and current, effects of dead-weight, draft, trim, speed and under-keel clearance on turning circles and stopping distances; interaction and squat.
- b) berthing and unberthing at jetties, quays, mooring buoys and single-point moorings with/without tugs, with/without tidal stream, with/without wind;
- c) manoeuvres in restricted waters and open ocean waters;
- d) embarking and disembarking pilots;
- e) limitations of remote control operation of marine power plant and auxiliary machinery;
- f) anchors: different types of anchors and their advantages and disadvantages, preparation for anchoring, anchoring in a tideway and in confined water, operation of anchoring with a single anchor and use of a second anchor, dragging anchor, clearing a foul anchor and hawse, hanging off an anchor, breaking and slipping cables, getting under way;
- g) navigation in the vicinity of ice, ice reporting and steps to be taken in the event of ice accretion;
- h) manoeuvres to launch and recover rescue boats/survival craft.

## TOPIC 2

## CARGO HANDLING AND STOWAGE

### .1 Loading and Unloading of Cargoes

- a) use, maintenance and testing of cargo handling equipment on board the vessel concerned;
- b) application of the contents of relevant codes and guidelines concerning the safe handling of cargoes on board the vessel concerned;
- c) knowledge of the effect on trim and stability, of cargoes and cargo operations on board the vessel concerned;
- d) use of stability and trim information, use of stress-calculating equipment, knowledge of loading cargoes and ballasting with respect to stability and hull stress.

### .2 Stowage, Securing and Care of Cargoes

- a) application of the contents of relevant regulations, codes and guidelines concerning the safe stowage, securing and carriage of cargoes.

## TOPIC 3

## RESPONSE TO EMERGENCIES

### .1 Response to Navigational Emergencies

- a) measures to be taken following: accidental damage including collision, grounding, flooding or major mechanical damage, including the possibility of beaching a ship; protection of the marine environment;
- b) knowledge of the effect on trim and stability, and subsequent actions in the event of damage to and consequent flooding of a compartment;
- c) preparations and precautions for towing and being towed;
- d) use of the International Aeronautical and Marine Search and Rescue (IAMSAR) Manual (Volume III), distress and emergency signals; Search and Rescue (SAR) around the UK and world-wide;
- e) SAR and rescue plans for passenger ships;
- f) knowledge of the operation of emergency steering systems.

### .2 Respond to Other Emergencies

- a) the organisation and direction of fire-fighting and abandon ship parties;
- b) methods of dealing with fire on board ship; prevention of fire at sea and in port;
- c) action to be taken to prevent the spread of fire;
- d) operation, maintenance and testing of fire fighting equipment, fire doors, dampers, screens and detection equipment;
- e) operation, maintenance and testing of watertight doors, sidescuttles and scuppers;
- f) launch, manage and ensure survival in survival craft, recover survival craft at sea and beach or land survival craft;
- g) operation, maintenance and testing of lifesaving appliances;
- h) knowledge of the contents of SOLAS training manuals;
- i) action to be taken when disabled and in distress;
- j) assisting a ship or aircraft in distress; rescuing the passengers and crew of a disabled ship or ditched aircraft;
- k) safety during helicopter operations.

### .3 Communications

- a) correct use of distress signals and awareness of penalties for misuse;
- b) emergency communications within the GMDSS regulations;
- c) sources of radio medical advice.

## TOPIC 4

## ONBOARD SHIP OPERATIONS

### .1 Compliance with Pollution Prevention Requirements

- a) measures to be taken to prevent pollution in port and at sea;
- b) take appropriate action in response to pollution incidents on board and found at sea;
- c) knowledge of the contents of the SOPEP manual, Garbage Management Plan and use of provided anti-pollution equipment;
- d) practical knowledge of the requirements of MARPOL Conventions;
- e) knowledge of responsibilities, duties, obligations and liabilities in respect of pollution.

### .2 Seaworthiness of the Ship

- a) preparations for sea prior to sailing with respect to watertight integrity and additional precautions to be taken before the onset of heavy weather;
- b) practical knowledge of the particular loadline items affecting seaworthiness;
- c) action in event of cargo shift, damage to hull or hatches, loss of cargo overboard or ingress of water into hull;
- d) preparation for dry-docking and undocking with and without cargo/damage; general procedure and precautions to be observed;
- e) use and care of deck machinery commonly fitted.

### .3 Crew Management

- a) knowledge of personnel management, organisation and training including disciplinary procedures;
- b) application of hours of work and rest legislation.

### .4 Maintain Safety of Ships Crew and Passengers

- a) master's responsibility with respect to stowaways and prevention of smuggling;
- b) precautions to safeguard against terrorism, piracy and armed robbery;
- c) methods of pest control - fumigation of holds and living spaces; safeguards in applying various methods.

### .5 Legislative Requirements

- a) knowledge of the application of current Merchant Shipping Health and Safety legislation, including the Code of Safe Working Practices for Merchant Seamen and the main elements of Risk Assessment;
  - b) Improvement and Prohibition Notices;
  - c) safe manning, crew agreements, conditions of employment, official log book and the law relating to entries;
  - d) understanding of load line marks, entries and reports in respect of freeboard, draft and allowances;
  - e) routine inspection of living quarters and store rooms, and complaints procedure;
  - f) requirements for records including Oil Record Book;
  - g) requirements for drills and training;
  - h) the requirements of the regulations concerning fire-fighting appliances;
  - i) knowledge of the requirements of the regulations concerning life-saving appliances;
  - j) knowledge of the international conventions relevant to the operation of ships including certificates and other documents required to be carried on board ships;
  - k) requirements for statutory and classification surveys;
  - l) reports required by the Marine Accident Investigation Branch (MAIB).;
  - m) putting into port with damage to ship and/or cargo, both from business and technical points of view - safeguarding of cargo;
  - n) obligations with respect to pilotage;
  - o) towage and salvage agreements;
  - p) purpose of Flag State and Port State Control;
  - q) purpose and application of the International Safety Management (ISM) Code.
-

Candidates should demonstrate the ability to apply the knowledge outlined in this oral syllabus and oral examination syllabuses **Deck - B** and **Deck - C**, by the appropriate responses, anticipations and reactions to a range of routine, non-routine and contingency scenarios as presented by the examiner, from the perspective of **MASTER**.

## TOPIC 1                      NAVIGATION

### .1 Plan and Conduct Safe Navigation

- a) voyage planning and navigation for all conditions including ships' routing and reporting systems;
- b) IALA systems of maritime buoyage;
- c) understand and interpret a synoptic chart and use of weather routing services.;
- d) knowledge of characteristics of various weather systems, including tropical revolving storms, the avoidance of storm centres and dangerous quadrants;
- e) practical measures to be taken when navigating in or near ice and dealing with ice accumulation on board;
- f) danger messages and obligatory reporting requirements.

### .2 Establishing Safe Navigational Watchkeeping Arrangements and Procedures

- a) a thorough knowledge of the principles of navigational watchkeeping at sea, including under pilotage, at anchor and in port;
- b) a thorough knowledge of the content, application and intent of the international regulations for the prevention of collisions at sea;
- c) knowledge and application of the ICS Bridge Procedures Guide;
- d) limitations and risks involved with the use of ECDIS and RCDS; inter-relationship and optimum use of all navigational information available;
- e) a knowledge of principles of establishing a safe engineering watch at sea, anchor and in port.

### .3 Compasses

- a) the operation and care of various types of compasses;
- b) care and maintenance of the magnetic compass and binnacle;
- c) knowledge of the purpose and use of compass correctors (candidates will not be required to demonstrate a compass correction procedure);
- d) knowledge of how to find the magnetic bearing of a distant object and subsequent construction of a deviation card.

### .4 Manoeuvre the Ship

- a) knowledge of manoeuvring and propulsion characteristics of ships, with special reference to stopping distances and turning circles at various draughts and speeds, squat and inter-action;
- b) importance of navigating at reduced speed to avoid damage caused by own ship's bow wave and sternwave;
- c) demonstrate an understanding of ship manoeuvres commonly undertaken under all weather conditions including: berthing and unberthing, approaching pilot stations, restricted waters and shallow water;
- d) management and handling of ships in heavy weather;
- e) choice of anchorage and working anchors in all circumstances;
- f) precautions when manoeuvring to launch rescue boats or survival craft in bad weather.

## **TOPIC 2 CARGO HANDLING AND STOWAGE**

### **.1 Plan and Ensure Safe Loading, Stowage, Securing, Care During Voyage and Unloading of Cargoes**

- a) knowledge and ability to apply relevant international regulations, codes and guidelines concerning the safe handling, stowage, securing and transport of cargoes.

## **TOPIC 3 RESPONSE TO EMERGENCIES**

### **.1 Response to Navigational Emergencies**

- a) precautions when beaching a ship;
- b) grounding: action to be taken when imminent, after grounding and re-floating, and subsequent surveys;
- c) measures to be taken following exceptional circumstances including loss of rudder and/or propeller and impairment of watertight integrity of the ship through any cause;
- d) emergency towing arrangements and towing procedures;
- e) plan and co-ordinate SAR operations, including establishing and maintaining effective communications.

### **.2 Response to Other Emergencies**

- a) preparation of contingency plans for response to emergencies;
- b) actions to be taken when disabled and in distress;
- c) organisation of fire and abandon ship exercises;
- d) methods and aids for fire prevention, detection and extinction;
- e) functions and use of life saving appliances;
- f) abandoning ship and survival procedure;
- g) SAR plans for passenger ships;
- h) maintenance of operational conditions of life saving appliances, fire fighting appliances and other safety systems;
- i) 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;
- j) action to limit damage and save the ship following a fire, explosion, collision or grounding, including protection of the marine environment;
- k) action to safe guard all persons on board in emergencies;
- l) assisting a ship or aircraft in distress.

## **TOPIC 4 ON BOARD SHIP OPERATIONS**

### **.1 Compliance with Pollution Prevention Requirements**

- a) responsibilities under International Convention for Prevention of Pollution including masters' duties, obligations and liabilities, including the keeping of records;
- b) methods and equipment to prevent pollution.

### **.2 Seaworthiness of the Ship**

- a) effect of heavy weather on the ship's structure;
- b) effect upon ship behaviour of lists, stiff and tender stability conditions, large angles of heel and associated righting precautions: the effect upon different cargoes;
- c) the importance of free surface effects and the identification and correction of an angle of loll;
- d) specific effects on stability and stress caused by ship type or nature of trade.



### **.3 Crew Management**

- a) knowledge of personnel management, organisation and training including disciplinary procedures;
- b) application of hours of work and rest legislation.

### **.4 Maintain Safety of Ships Crew and Passengers**

- a) master's responsibility with respect to stowaways and prevention of smuggling;
- b) precautions to safeguard against terrorism, piracy and armed robbery;
- c) methods of pest control, fumigation of holds and living spaces, safeguards in applying various methods.

### **.5 Legislative Requirements**

- a) knowledge and application of current Merchant Shipping Health and Safety legislation including the Code of Safe Working Practices for Merchant Seamen and the main elements of Risk Assessment;
- b) safe manning, crew agreements, conditions of employment, official log book and the law relating to entries;
- c) knowledge of international conventions relevant to the operation of ships, including certificates and other documents required to be carried on board ships;
- d) requirements for statutory and classification surveys;
- e) reports required by the Marine Accident Investigation Branch (MAIB);
- f) putting into port with damage to ship and/or cargo, both from business and technical points of view, safeguarding of cargo;
- g) towage and salvage agreements;
- h) obligations with respect to pilotage;
- i) maritime declarations of health and requirements of the international health regulations;
- j) purpose and application of the International Safety Management (ISM) Code.

## **STCW 95 ENGINEER ORAL EXAMINATION SYLLABUSES**

### **STCW Reg - III/1 ENGINEER OFFICER OF THE WATCH**

The following syllabus is mainly concerned with the safe and efficient operation of plant, the correct use of equipment provided for the safety of the ship and the protection of the environment.

#### **TOPIC 1                    MARINE ENGINEERING**

##### **.1 Maintain a Safe Engineering Watch**

- a) routine associated with taking over, accepting and handing over a watch;
- b) compilation of machinery space log book and understanding significance of readings taken;
- c) routine duties undertaken during a watch at sea, at anchor and in port;
- d) changeover of systems from remote/automatic to local control;
- e) safety precautions to be observed during a watch and immediate actions in the event of equipment breakdown, fire, flooding or accident;
- f) methods of checking water level in boilers and action necessary if water level is abnormal;
- g) recognition of boiler water contamination;
- h) action in the event of scavenge fire/crankcase mist alarm.

##### **.2 Operate Main and Auxiliary Machinery and Associated Control Systems**

- a) working principles of main propulsion and auxiliary machinery;
- b) preparation of main propulsion and auxiliary machinery for sea;
- c) operation of machinery and plant in engine and boiler rooms;
- d) operation of auxiliary boilers, including combustion system;
- e) location of common faults in machinery and plant in engine and boiler rooms and action necessary to prevent damage;
- f) routine pumping operations of bilge, ballast, fuel oil, diesel oil, lubricating oil, fresh water and cargo.

#### **TOPIC 2                    ELECTRICAL, ELECTRONIC AND CONTROL ENGINEERING**

##### **.1 Operate Alternators, Generators and Control Systems**

- a) preparation, starting, coupling and changing over of alternators and generators;
- b) location of common faults in generating plant and appropriate action to prevent damage;
- c) location of common faults in control systems and appropriate action to prevent damage.

#### **TOPIC 3                    MAINTENANCE AND REPAIR**

##### **.1 Maintain Marine Engineering Systems**

- a) safe isolation of electrical and other plant and equipment in preparation for work to be carried out, work permit systems;
- b) use of appropriate tools for fault finding, maintenance and repair of shipboard plant and equipment;
- c) constructional details of machinery and plant in engine and boiler rooms.

## TOPIC 4

## CONTROL THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD

### .1 Ensure Compliance with Pollution Prevention Requirements

- a) precautions to be taken to prevent pollution of the environment;
- b) use of oily water separator;
- c) restricted areas, oil record book, disposal of pollutants;
- d) action in response to a pollution incident on board, SOPEP manual;

### .2 Maintain Seaworthiness of the Ship

- a) general knowledge of the principal structural members of a ship and the proper names for the various parts.;
- b) understanding the fundamentals of watertight integrity of the hull;
- c) understanding of the fundamental actions to be taken in the event of partial loss of intact buoyancy.

### .3 Prevent, Control and Fight Fires on Board

- a) fire prevention, use and care of fire-fighting appliances, fixed machinery space installations, escape and breathing apparatus;
- b) appropriate action in response to fires on board, within and external to machinery spaces, shut-down and isolation of plant and equipment;
- c) organisation of emergency parties and drills;
- d) fire and safety plans.

### .4 Operate Life-Saving Appliances

- a) correct use of life-saving appliances and equipment;
- b) organisation of abandon ship drills.

### .5 Legislative Requirements

- a) the purpose of MCA Merchant Shipping Notices, Marine Guidance Notes and Marine Information Notes;
- b) knowledge and application of the Code of Safe Working Practices for Merchant Seamen;
- c) an outline knowledge of merchant shipping Health and Safety at Work regulations;
- d) basic working knowledge of the International Safety Management (ISM) Code and of the SOLAS, MARPOL and STCW Conventions.

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## STCW Regs - III/3 AND III/2

### CHIEF AND SECOND ENGINEER OFFICERS

The following is a common syllabus in which Chief Engineers and Second Engineers are required to demonstrate the specific competence detailed in the appropriate paragraph below. All candidates should demonstrate a thorough knowledge of the syllabus for Engineer Officer of the Watch.

### STCW Reg III/3 - Second Engineer - ships less than 3000 kW

As candidates at this level will also be granted certificates under Regulation III/2 to sail as Second Engineer on vessels of less than 6000 kW on near-coastal voyages, the oral examination will concentrate on marine systems and equipment associated with ships up to this limited registered power. It will be concerned with the constructional details, working principles and safe and efficient operation of plant, the correct use of equipment provided for the safety of the ship and the protection of the environment, and the legal and management responsibilities of a certificated engineer officer.

In addition, candidates are required to demonstrate sufficient knowledge to enable them to assume the responsibilities of the Chief Engineer should this officer become incapacitated during a voyage, and thus enable the vessel to safely make the next port.

### **STCW Reg III/3 - Chief Engineer - ships less than 3,000 kW**

As candidates at this level may also be granted certificates under Regulation III/2 to sail as Chief Engineer on vessels of less than 6,000 kW on near-coastal voyages, the oral examination will be based on the operation, maintenance and management of marine machinery appropriate to ships of this limited registered power, particularly the recognition of irregularity in the performance of that machinery and the analysis and interpretation of information gained from monitoring equipment. It will also cover emergency procedures directly related to the safety of ships and the protection of the environment, advanced operational engineering knowledge and the legal and administrative duties of a Chief Engineer Officer.

### **STCW Reg III/2 - Second Engineer**

The oral examination will be concerned with the constructional details and working principles of marine systems and equipment, the safe and efficient operation of plant, the correct use of equipment provided for the safety of the ship and the protection of the environment, and the legal and management responsibilities of a certificated engineer officer.

In addition, candidates are required to demonstrate sufficient knowledge to enable them to assume the responsibilities of the Chief Engineer should this officer become incapacitated during a voyage, and thus enable the vessel to safely make the next port.

### **STCW Reg III/2 - Chief Engineer**

The oral examination will be based on the operation, maintenance and management of marine machinery, particularly the recognition of irregularity in the performance of that machinery and the analysis and interpretation of information gained from monitoring equipment. It will also cover emergency procedures directly related to the safety of ships and the protection of the environment, advanced operational engineering knowledge and the legal and administrative duties of a Chief Engineer Officer.

## **COMMON SYLLABUS FOR CHIEF AND SECOND ENGINEER OFFICERS**

### **TOPIC 1 MARINE ENGINEERING**

#### **.1 Operate, Test and Maintain Marine Engineering Systems**

- a) marine diesel propulsion machinery, including:
  - trunk and cross-head diesel engines,
  - starting and reversing systems,
  - gearing systems and clutches,
  - cooling and lubrication systems,
  - fuel oil preparation systems;
- b) steam turbine propulsion machinery, including:
  - steam boilers and mountings,
  - steam distribution systems,
  - steam turbines,
  - gearing and lubrication systems,
  - feed water systems;
- c) assessment of power output and efficiency of propulsion plant and actions to maintain safe and efficient operation;
- d) automatic control and alarm systems for propulsion and auxiliary machinery;
- e) sensing, monitoring and measuring devices associated with marine equipment;

- f) propulsive transmission systems, including thrust and shaft bearings, stern tubes and propellers;
- g) methods of manoeuvring, including bridge control systems and controllable pitch propellers;
- h) auxiliary diesel engines and associated equipment;
- i) auxiliary turbine driven plant and associated equipment;
- j) auxiliary steam boilers and associated equipment;
- k) air compressors, receivers and associated equipment;
- l) methods of testing fuel oil, lubricating oil and cooling water and action necessary to maintain safe conditions;
- m) methods of boiler water testing and conditioning and action to be taken to maintain safe conditions;
- n) bilge, ballast and fuel oil pumping systems;
- o) pollution prevention equipment and systems;
- p) steering and stabilising systems, including bow thrusters;
- q) refrigeration and air-conditioning systems;
- r) cargo handling equipment and deck machinery;
- s) fresh water production and conditioning systems.

## **TOPIC 2                      ELECTRICAL, ELECTRONIC AND CONTROL ENGINEERING**

### **.1 Operate, Test and Maintain Marine Electrical, Electronic and Control Engineering Systems**

- a) alternators, generators, motors, switchgear and batteries;
- b) AC and DC distribution systems;
- c) electrical and electronic control systems;
- d) AC and DC electrical propulsion systems.

## **TOPIC 3                      MAINTENANCE AND REPAIR**

### **.1 Plan, Schedule and Organise Maintenance and Repairs**

- a) Code of Safe Working Practices for Merchant Seamen;
- b) permit-to-work systems;
- c) dangers of entering enclosed spaces;
- d) dry dock procedures;
- e) planned maintenance systems;
- f) temporary and permanent repairs;
- g) hull and machinery surveys;
- h) properties of materials.

### **.2 Detect and Identify the Cause of Machinery Malfunctions and Correct Faults**

- a) fault finding and rectification of faults in shipboard mechanical and electrical plant and equipment, including pneumatic and electronic control systems

## **TOPIC 4                      CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD**

### **.1 Trim, Stability and Stress**

- a) factors affecting trim and stability, fuel and water ballast;
- b) effects of damage to and consequent flooding of a compartment on the trim and stability of the ship and appropriate countermeasures.

## **.2 Legislative Requirements**

- a) International convention certificates and documents required to be on board;
- b) knowledge of the international conventions on Marine Pollution, Load Lines, the Safety of Life at Sea, the Prevention of Pollution from Ships, Standards of Training, Certification and Watchkeeping and the International Health Regulations;
- c) legal powers and responsibilities under national legislation implementing international agreements and conventions;
- d) information and guidance notices issued by the MCA with respect to safety at sea and pollution of the marine environment;
- e) knowledge of the Codes associated with the carriage of dangerous goods;
- f) a working knowledge of merchant shipping Health and Safety at Work Regulations;
- g) full knowledge of the ISM Code;
- h) Port State Control.

## **.3 Maintain Safety and Security of the Vessel, Crew and Passengers**

- a) precautions against fires or explosions, explosive mixtures and sources of ignition;
- b) maintenance of fire-fighting, detection and extinguishing systems;
- c) maintenance of life-saving appliances and equipment including launching appliances;
- d) knowledge of life-saving appliance regulations;
- e) ensuring ship is in seaworthy condition prior to sailing, taking into account the nature of the voyage;
- f) preparation for heavy weather, maintenance of watertight integrity of the hull;
- g) procedures for the safe and efficient operation in the UMS mode.

## **.4 Emergency Situations and Damage Control**

- a) actions to protect and safeguard all persons on board in emergencies;
- b) principles and methods of fire prevention, detection and extinction in all areas of a ship;
- c) principles of structural fire protection;
- d) a thorough knowledge of ship construction;
- e) damage control plans;
- f) organisation, training and control of fire, abandon ship and damage control parties;
- g) actions to limit damage following fire, explosion, collision or grounding;
- h) functions and use of life-saving appliances;
- i) pollution prevention - action in response to a pollution incident - SOPEP manual;
- j) procedures for operating main machinery under emergency conditions.

## **.5 Management of Personnel**

- a) effective management, organisation and training of engine department personnel.

Please refer to our website for Marine Office Contact details: go to [www.gov.uk](http://www.gov.uk) and search for "MCA Marine Offices".

APPENDIX C

ADDRESSES OF MCA MARINE OFFICES WHERE ORAL EXAMINATIONS ARE HELD

- [REDACTED] [REDACTED]
- [REDACTED] [REDACTED]
- [REDACTED] [REDACTED]
- [REDACTED] [REDACTED]
- [REDACTED] [REDACTED]
- [REDACTED] [REDACTED]
- [REDACTED] [REDACTED]
- [REDACTED] [REDACTED]
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