

MASTER (WORKBOATS LESS THAN 500 GT, CARRYING 12 PASSENGERS OR LESS)

MASTER (WORKBOAT OPERATIONS) Course duration; the course must take place over 10 days or 60 hours of formal instruction either through classroom instruction or distance learning.

Candidates may be given course notes or a self-study preparation pack in advance.

Aims The aim of this course is to enable Masters to understand;

- The special type of operations a workboat may undertake
- Level of understanding necessary for the safe, secure and lawful operation of a commercially and privately operated workboat

Assessment

Assessment will be by a written 2½ hour examination of 6 questions, 3 from Topic 1, 2, 3 and 4 with a pass mark of 60% AND 3 questions from Topic 5 and 6 with a pass mark of 60%.

TOPIC 1 WORKBOAT LEGISLATION AND BUSINESS AND LAW

1. Vessel Codes

- a) Can state the principles of the codes relevant to commercial vessels.
- b) Can state the requirements for the provision of safety equipment on a workboat.
- c) Can state what categorisation of waters (0-6) are and the relationship to construction and stability requirements of a workboat.
- d) Can state the manning levels qualification requirements and the limitations imposed of the carriage of passengers of the codes relevant to commercial workboats.
- e) Has an awareness of the commercial aspects of workboat operations and charter parties
- f) Has an appreciation of the requirements of MLC 2006 as laid down in MGN 490 and 491 and any regulations and legislation introduced to enforce the Convention.

2. Certification

- a) Can state the national and international certification required to be carried on a workboat of less than 500 GT.

TOPIC 2 HEALTH AND SAFETY

1. Code of safe working practices for merchant seaman

- a) Can state the requirements for health surveillance and the need and requirements for personal health and hygiene and the importance of correct food preparation and handling on a workboat.
- b) Can demonstrate knowledge of the requirements for safe systems of work in machinery spaces, unmanned machinery and refrigeration machinery spaces.
- c) Can state the safe boarding and leaving arrangements.
- d) Can demonstrate a knowledge of the procedure for entering an enclosed space and be able to define what spaces should be regarded as enclosed or dangerous.
- e) Can demonstrate knowledge of the problems associated with noise and vibration on board a workboat and any relevant regulations.

- f) Can demonstrate the importance of Tool Box Talks.

TOPIC 3 SAFETY MANAGEMENT

1. Safety certificate and documentation

- a) Can state the purpose of the safety and environmental protection policy.
- b) Can describe the procedures for the reporting and analysis of non-conformities, accidents and hazardous occurrences.
- c) Can describe the importance for a maintenance system for the ship and equipment.
- d) Can state the Documentation requirements of the on board safety management system.

2. Safety organisation and Risk Assessment

- a) Can demonstrate an understanding of the risk assessment process, its practical operation, methodology and the completion of the matrix, including risk assessments for specialist operations.
- b) Can show an awareness of the concept of dynamic risk assessment and formal risk assessment.
- c) Can state the requirements and procedures needed for a permit to work scheme to ensure safe operations.
- d) Can describe what emergency procedures should be prepared for a workboat.
- e) Can demonstrate an understanding of the factors required to achieve a safe system of work.

3. Seaworthiness and safe manning

- a) Can demonstrate knowledge of the legal requirements to ensure that seafarers are adequately rested before performing any duties.
- b) Can state what the legal requirements are for safe manning on a workboat.
- c) Can state the international obligations under the Load Line convention to ensure that the vessel is seaworthy before and during any passage to sea.

4. Security

- a) Can state the international obligations under the ISPS code with regard to security arrangements both when the vessel is at sea or in port.
- b) Awareness of the content of the Best Management Practices for Protection against Somalia Based Piracy (BMP4) and any subsequent edition

TOPIC 4 LIFTING, STOWAGE AND CARE OF STORES AND EQUIPMENT

1. Handling of equipment and care of stores and equipment

- a) Can describe the procedure for the safe stowage and securing of machinery, diving plant, containers, survey equipment, loose pipes, stores and any other item carried on a workboat including the types of securing equipment that may be used.
- b) Can describe the procedure for the safe loading and discharging of machinery, diving plant, steelwork, containers, bulk bags, survey equipment, loose pipes, stores and any other item carried on a workboat including the types of equipment that may be used for lifting.
- c) Can state the purpose of the Document of Compliance for Carriage of IMDG and Material Safety Data Sheets and demonstrate a basic knowledge of the relevant sections of the IMO code for the "Safe Stowage, Segregation and Securing of Cargo".
- d) Can describe the procedure for the safe stowage, securing and carriage of stores including deck cargo for ships serving offshore installations.

TOPIC 5 STABILITY

1. Specialised ship stability requirements

- a) Can demonstrate knowledge of the information contained in a stability information book as found on a workboat and its uses.
- b) Calculate the position of G, the GM and resultant list during different phases of various operations
- c) Can demonstrate knowledge of the specific stability requirements for a workboat involved in
 - i. anchor handling operations
 - ii. diving support operations
 - iii. dredging operations
 - iv. towing operations
 - v. lifting operations

TOPIC 6 SHIP HANDLING AND OPERATION

1. General

- a) Can describe the procedure and equipment used for making fast and casting off from another vessel.
- b) Can describe the safe procedure for mooring to a buoy.
- c) Can describe the procedure for the transfer of personnel by boat for ships serving off shore installations.
- d) Can describe the procedure for approaching offshore installations.
- e) Can describe the procedure for the transfer of personnel between workboats and offshore installations.

2. Diving support operations

- a) Can describe the procedure for the secure mooring and recovery of moorings of a dive support vessel.
- b) Can describe the procedure for the safe anchoring of a dive support vessel.
- c) Can describe the use of shot lines on a dive support vessel.
- d) Can describe the safe use of engines and DP on a dive support vessel.
- e) Can state the importance of the proper lines of communication and lines of responsibilities, Master/Dive Master relationship, who is in charge and why on a dive support vessel.
- f) Can explain the types of work undertaken by a dive support vessel.
- g) Can describe the different dive systems used
- h) Can give a general outline of the Dive Codes of Practice.
- i) Can describe the provision of in-water support on a dive support vessel.
- j) Can describe the procedure for the recovery of divers including the use of ladders, hyperbaric units, cages and emergency situations.

3. Anchor handling operations

- a) Can define common anchor handling terms used on an anchor-handling vessel.
- b) Can describe the need for anchor handling safety procedures including live wire, snap back and anchor handling whilst manoeuvring.
- c) Can demonstrate knowledge of wires, shackles and other securing devices including kentor shackle, pear and hinge.
- d) Can describe the safe procedures for lowering, running and deploying an anchor.
- e) Can describe the correct rigging, connection and disconnection of handling wires when lowering or lifting an anchor.
- f) Can describe the correct hand signals to be used on during lifting operations.

- g) Can describe the safe operation of jaws and pins when lowering or lifting.
- h) Can describe the correct procedure for lifting of anchors including the use of grapnels, lassoes and surface buoys.
- i) Can describe the correct procedure for decking an anchor.
- j) Can describe the correct maintenance of anchor handling equipment.

4. Dredging operations

- a) Can describe the importance of the use of appropriate equipment on a vessel engaged in dredging operations.
- b) Can list the factors to be taken into account when planning a dredging operation, including the area to be dredged, type and quantity of material to be removed, local environmental and navigation conditions, traffic density and other potential hazards.,
- c) Can describe the procedure for dealing with suspicious objects in spoil
- d) Can describe the importance of and the procedure for the safe disposal of spoil, including ensuring the suitability of the planned disposal area and any required permissions.
- e) Can describe the uses and procedures for different types of dredging including ploughing, jetting, grab, cutter suction or trailer.
- f) Demonstrate an understanding of the importance and impact of DEFRA dredging licence, UK Hydrographic Office's hydrographic standards and other regulations relevant to dredging

5. Towing operations

- a) Can state the importance of producing a towage plan for a vessel engaged in towage.
- b) Can explain the purpose of a towage warranty survey and a tow inspection.
- c) Can explain the general characteristics of a towing operation, the types of tow that may be found.
- d) Can explain why different towage arrangements may be required for different phases of a tow.
- e) Can explain why there may be a need for a Load Line exemption on a vessel being towed.
- f) Can explain towing points and the use of towing equipment.
- g) Can state the different types of propulsion systems that may be found such as azimuth propellers, CPP, FPP, Voith Schneider (VS), steerable nozzles and shrouded nozzles.
- h) Can explain the effects of squat and interaction between vessels, specifically the towing vessel and the tow.
- i) Can explain the need for towage emergency procedures including, for instance;
 - i. grounding of tug and/or tow
 - ii. man over board
 - iii. failure of towing lines/gog arrangements/shackles/towing hook/winch
 - iv. failure of critical systems
 - v. emergency release of tow
- j) Can explain the importance of obtaining local knowledge including the effect of local conditions on tows.
- k) Can explain the importance of passage planning before attempting a tow including;
 - i. effect on wheel over positions on position of tow
 - ii. track of tow in narrow channels
 - iii. ports of refuge and safe havens
 - iv. use of additional tugs for critical points
- l) Can explain the importance of maintaining watertight integrity whilst towing.
- m) Can explain the importance of testing and inspection of towage equipment.
- n) Can explain the use of bridle/gog ropes during towage operations.