



Australian Government

Assessment Requirements for MARC052 Operate deck machinery, cargo handling gear and equipment on a vessel

Release: 1

Assessment Requirements for MARC052 Operate deck machinery, cargo handling gear and equipment on a vessel

Modification History

Release 1. This is the first release of this unit of competency in the MAR Maritime Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices
- applying risk assessment and hazard control strategies
- communicating with other workplace personnel using effective:
 - handheld radios
 - hand signals
 - listening techniques
 - questioning to confirm understanding and appropriate worksite protocol
 - signage
 - written instructions
- completing required records related to the operation of deck machinery and cargo handling gear and equipment
- exercising safety, environmental and hazard control precautions and procedures during the operation of deck machinery, cargo handling gear and equipment on a vessel
- following work schedules in accordance with workplace instructions and safety management system (SMS)
- operating anchoring equipment under various conditions, such as anchoring, weighing anchor, securing for sea and in emergencies
- reading, interpreting and applying instructions on the operation of deck machinery and cargo handling gear and equipment
- recognising cargo handling gear hazards and problems while operating deck machinery and cargo handling gear and equipment
- recognising faulty equipment and taking appropriate actions
- recognising routine hazards that can arise on a chemical and oil and liquefied gas tanker
- selecting and using relevant tools and equipment
- setting up, shutting down and storing welding, brazing and cutting equipment
- using and handling deck and cargo handling gear and equipment
- using signals to direct the operation of equipment, including winches, cranes, windlasses and hoists

- working safely and collaboratively with others
- working safely at heights, and correctly applying and using safety equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- access arrangements, including:
 - freight elevators
 - hatch covers
 - hatches
 - ramps
 - side, bow and stern doors
- appropriate selection and use of personal protective equipment (PPE)
- boom/jib movements and the safe positioning of the operator for any lift
- cargo, including:
 - chemicals and oils
 - explosives
 - general cargo, break bulk, unitised or in containerised
 - hazardous or dangerous goods, both break bulk and containerised
 - heavy lifts
 - liquefied gas
 - liquids in portable containers
 - livestock
 - mineral concentrates
 - refrigerated cargo
 - scrap, pig iron ingots, steel coils and sheets
 - solid bulk materials
 - timber
- cargo handling gear and equipment
- characteristics and features of bulk carriers, chemical and oil tankers and liquefied gas tanker layouts and cargo
- function and uses of:
 - cranes, pumps, hoists, booms, derricks and related equipment
 - hatches, watertight doors, port hole, port cover and related equipment
 - winches, windlasses, capstans and related equipment
- fundamental properties of liquid and liquefied cargo and their impact on safety, the environment and vessel operations
- hazards and control measures associated with bulk carriers, chemical and oil tankers, and liquefied gas tanker cargo operations, including:
 - electrostatic hazards

- environmental hazards
- explosion and flammability
- extremely low temperatures
- insufficient lighting
- low temperatures
- other personnel in area of operation
- overhead obstructions
- pressure hazards
- reactivity and corrosion
- source of ignition
- toxicity
- vapour leaks and clouds
- weather conditions
- hazard and risk control procedures, including:
 - anti-static measures
 - atmospheric control
 - cargo inhibition
 - checking compatibility
 - confined space entry precautions
 - correct use of safety data sheets (SDS)/material safety data sheets (MSDS) information
 - ensuring operation is visible to operator at all times or a watchperson is utilised to ensure a lift is monitored at all times
 - gas testing
 - identifying hazards and assessing risks of the operation
 - inerting, drying and monitoring techniques
 - inspecting equipment and record books before commencing operations
 - providing adequate lighting
 - segregation of cargo
 - ship/shore checklist
 - ventilation
 - wearing appropriate PPE
- hazards and related safety precautions relevant to basic welding, brazing and cutting
- hoisting and dipping of flags and main single-flag signals
- hydraulic and pneumatically operated mechanical tools and equipment
- identifying faulty and damaged wire and/or rope
- identifying fibre and wire ropes, cables and chains, including their construction, use, markings, maintenance and proper stowage
- pipeline systems – bilge and ballast suctions and wells
- piping systems, valves, loading and unloading, care in transit and emergency shutdown (ESD) procedures
- principal features and operating characteristics of steering gear and deck machinery used on a

range of vessel types

- problems related to operating deck machinery and cargo handling gear and equipment, and appropriate actions and solutions
- procedures for:
 - checking and inspecting deck machinery and cargo handling gear and equipment used on vessels
 - marlin spike seamanship, including proper use of knots, splices and stoppers
 - rigging and unrigging pilot ladders, hoists, rat-guards and gangways
 - safe operation of deck machinery and cargo handling gear and equipment
- records that must be maintained on a vessel relevant to cargo handling and stowage
- relevant sections of maritime regulations, codes and conventions related to tankers and gas carriers
- relevant WHS/OHS requirements, work practices and pollution control regulations and policies
- safe working loads of ropes, wires, blocks, chains and lifting gear
- safety, environmental and hazard control precautions and procedures relevant to the operation of deck machinery and cargo handling gear and equipment
- signals for the operation of equipment, including winches, cranes, windlasses and hoists
- standard communication techniques and signals used during the operation of deck machinery and cargo handling gear and equipment
- terminology relating to the structure, capacities and operations of various types of tankers and gas carriers
- the correct method of replacing winch wire and/or rope and attaching new wire and/or rope to winch drum
- use and general maintenance of lifting equipment and basic slinging techniques.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Practical assessment must occur in a workplace or realistic simulated workplace, under the normal range of workplace conditions.

Simulations and scenarios may be used where situations cannot be provided in the workplace or may occur only rarely, in particular for situations relating to emergency procedures and adverse weather conditions where assessment would be unsafe, impractical or may lead to environmental damage.

Resources for assessment must include access to:

- applicable documentation, such as legislation, regulations, codes of practice, workplace procedures and operational manuals
- tools, equipment, machinery, materials and relevant personal protective equipment (PPE) currently used in industry

Links

Companion Volume implementation guide can be found in VetNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2>