



**Australian Government**

**Assessment Requirements for MARK010  
Manoeuvre and handle a ship in all  
conditions**

**Release: 1**

# Assessment Requirements for MARK010 Manoeuvre and handle a ship in all conditions

## 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 constant-rate-of-turn techniques
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices
- basing all decisions concerning berthing and anchoring on a proper assessment of vessel manoeuvring and engine characteristics and the forces to be expected while berthed alongside or lying at anchor
- berthing and unberthing under various conditions of wind, tide and current with and without tugs
- determining the manoeuvring and propulsion characteristics of common types of vessels, with special references to stopping distances and turning circles at various draughts and speeds
- handling vessels in rivers, estuaries and restricted waters having due regard to the effects of current, wind and restricted water on helm response
- issuing helm and engine orders
- maintaining situation awareness
- making a full assessment of possible effects of shallow and restricted waters, ice, banks, tidal conditions, passing vessels and own vessel bow and stern wave while under way so that the vessel can be safely manoeuvred under various conditions of loading and weather
- managing and handling vessels in heavy weather, including assisting a vessel or aircraft in distress, towing operations, keeping unmanageable vessel out of trough of the sea, lessening drift and using oil
- manoeuvring in shallow water, including the reduction in under-keel clearance caused by squat, rolling and pitching
- using propulsion and manoeuvring systems
- using remote controls of propulsion plant and auxiliary machinery.

## 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:

- alterations, including:
  - alterations of course
  - reduction in speed
- effects of current, wind and restricted water on helm response
- features of a vessel that relate to its handling characteristics
- importance of navigating at reduced speed to avoid damage caused by own vessel bow wave and stern wave
- manoeuvres, including:
  - application of constant-rate-of-turn techniques
  - berthing and unberthing under various conditions of wind, tide and current with and without tugs
  - 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
  - determining the manoeuvring and propulsion characteristics of common types of vessels, with special references to stopping distances and turning circles at various draughts and speeds
  - dragging anchor and clearing fouled anchors
  - dry-docking, both with and without damage
  - handling vessel in rivers, estuaries and restricted waters with due regard to the effects of current, wind and restricted water on helm response
  - importance of navigating at reduced speed to avoid damage caused by own vessel bow wave and stern wave
  - interaction between passing vessel and own vessel and nearby banks
  - managing and handling vessels in heavy weather, including assisting a vessel or aircraft in distress, towing operations, means of keeping unmanageable vessel out of trough of the sea, lessening drift and use of oil
  - manoeuvres when approaching pilot stations and embarking and disembarking pilots with due regard to weather, tide, head reach and stopping distances
  - manoeuvring in shallow water, including the reduction in under-keel clearance caused by squat, rolling and pitching
  - methods of taking on board survivors from rescue boats and survival craft
  - practical measures to be taken when navigating in or near ice or in conditions of ice accumulated on board
  - precautions in manoeuvring to launch rescue boats or survival craft in bad weather
  - procedures for and anchoring in deep and shallow water
  - turning a vessel on a reciprocal track to rescue a person overboard
  - using propulsion and manoeuvring systems, including various types of rudder
  - vessel and tug interaction
- manoeuvres when towing or under tow
- manoeuvring and propulsion characteristics of common types of vessels
- means of keeping an unmanageable vessel out of trough of the sea, lessening drift and use of oil

- nature of emergencies, including:
  - beaching
  - cargo shift
  - collision
  - damage to the vessel
  - disabled or partially disabled vessel
  - fire
  - grounding
  - loss of steering gear, including rudder
  - person overboard
- operational environment, including:
  - bank effect
  - conditions of loading
  - marine park areas
  - passing vessels
  - shallow and restricted waters
- orders, including:
  - communications with shore
  - embarking or disembarking a pilot
  - engine
  - helm
  - preparation for being towed or towing another vessel
  - preparation for taking tug lines
  - running mooring lines
- procedures for entering and leaving traffic separation zones
- reduction in under-keel clearance caused by squat, rolling and pitching
- situational awareness, including:
  - berthing and unberthing with tugs
  - choice of anchorage
  - dry-docking
  - effects of current, wind and restricted waters on helm response
  - head reach
  - in or near ice or ice accumulation on board
  - launching lifeboats or survival craft
  - load conditions
  - own vessel bow wave and stern wave
  - pilot boarding grounds
  - requirements of the manoeuvre
  - rivers, estuaries and restricted waters
  - safe water

- shallow water
- stopping distances and turning circles
- taking onboard survivors from lifeboats or survival craft
- tide
- traffic operation schemes
- weather conditions
- use of propulsion and manoeuvring systems
- use of, and manoeuvring in or near, traffic separation schemes (TSS) and in vessel traffic service (VTS) areas
- vessel and tug interaction
- vessel handling characteristics, including:
  - effects of single or twin screw
  - effects when moving astern
  - stopping ability
  - use of controllable pitch propeller (CPP)
- vessel resources, including:
  - bow and stern thrusters
  - communications equipment
  - engine control systems
  - helm and rate of turn indicators
  - personnel
- WHS/OHS requirements and work practices.

## 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 include access to:

- relevant documentation, including workplace procedures, regulations, codes of practice and operation manuals

- tools, equipment 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>