



Australian Government

MARK002 Manoeuvre a vessel up to 24 metres within near coastal waters

Release: 1

MARK002 Manoeuvre a vessel up to 24 metres within near coastal waters

Modification History

Release 1. New unit of competency.

Application

This unit involves the skills and knowledge required to manoeuvre a vessel of up to 24 metres in length within near coastal waters.

This unit applies to people working in maritime industry in the capacity of Master on a range of vessels up to 24 metres within near coastal waters. The limit of near coastal waters is the Exclusive Economic Zone (EEZ), which in Australia is 200 nautical miles.

This unit has links to legislative and certification requirements.

Pre-requisite Unit

Not applicable.

Competency Field

K – Manoeuvring Vessels

Unit Sector

Not applicable.

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Manoeuvre vessel in normal conditions	1.1	Features of vessel that relate to its handling characteristics are recognised
	1.2	Details of manoeuvres are communicated to relevant personnel clearly and concisely using standard maritime vocabulary
	1.3	Situational awareness is maintained to ensure safe manoeuvres
	1.4	Manoeuvres are completed to meet passage requirements

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| | 1.5 | Propulsion equipment is used and monitored to assist in completing manoeuvres safely |
| | 1.6 | Appropriate alterations to vessel heading are made in response to operational environment |
| | 1.7 | Safe operating limits of propulsion and steering equipment are not exceeded |
| 2 | Manoeuvre vessel in adverse weather conditions | |
| | 2.1 | Nature of adverse weather conditions is identified and the potential impact on the manoeuvrability of the vessel is determined |
| | 2.2 | Appropriate action is taken to ensure the safety of vessel |
| | 2.3 | Propulsion equipment is used and monitored to assist in completing actions safely |
| | 2.4 | Heading is maintained within acceptable limits |
| | 2.5 | Appropriate allowance is made for effects of deadweight, draft, trim, speed and underwater keel clearances during turning circles and stopping distance |
| | 2.6 | Safe operating limits of propulsion and steering equipment are not exceeded |
| | 2.7 | Situational awareness is maintained at all times to review actions and ensure safety of vessel |
| 3 | Manoeuvre vessel in emergencies | |
| | 3.1 | Nature of the emergency is established and required action is determined |
| | 3.2 | Risks to the vessel and the safety of persons on board are assessed and safety of required action is confirmed |
| | 3.3 | Details of action are communicated to relevant personnel clearly and concisely using standard maritime vocabulary |
| | 3.4 | Appropriate manoeuvres are made during the emergency to maintain the safety of the vessel and those on board, and any other vessels or persons involved |
| | 3.5 | Propulsion equipment is used and monitored to assist in completing actions safely |
| | 3.6 | Safe operating limits of propulsion and steering equipment are not exceeded |

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| 4 Tow and be towed | 4.1 Preparations for towing are safely made according to established nautical practice |
| | 4.2 Correct towing procedures and precautions are applied when towing and being towed |

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Features of vessel include one or more of the following:

- displacement and planing hulls
- propulsion units
- rudders and propellers

Manoeuvres must include:

- astern movements
- berthing and leaving a berth
- berthing in a pen
- coming to and leaving mooring
- positioning vessel to safely launch boats or life rafts in bad weather
- retrieval of person overboard
- turning a vessel across tide and wind
- turning short around
- Williamson turn

Situational awareness include one or more of the following:	• other vessels in the vicinity of the manoeuvre • own vessel position in relation to shallow water and other obstructions • weather conditions that may affect the manoeuvre
Propulsion equipment includes one or more of the following:	• inboard engine • inboard/outboard engine • jet propulsion engine • outboard engine
Adverse weather conditions includes one or more of the following:	• fog and restricted visibility • wind and sea conditions that may affect the safety of the vessel
Appropriate action includes one or more of the following:	• altering course to minimise the effect of wind and sea • deploying a sea anchor to keep vessel head to sea • heading to wind and sea to ride out the adverse weather • reducing speed • seeking shelter
Nature of the emergency includes one or more of the following:	• beaching • collision • damage to the vessel • disabled or partially disabled vessel • fire • grounding • injury or death • loss of steering gear • person overboard
Preparations for towing includes one or more of the following:	• crew briefings that include the task at hand and risks to persons on both vessels • ensuring appropriate lights and shapes for the tow are available and in working order • ensuring means of communication between the two vessels is available • ensuring tow ropes are in good condition and of adequate strength for the proposed tow

- making appropriate reports to authorities
- preparing messenger ropes for passing tow lines

Correct towing procedures include one or more of the following:

- ensuring tow line is of sufficient length to minimise shockloading on tow-line
- making tow fast to the towing vessel to ensure steerage can be maintained
- making provision for rapid slipping of the tow in emergency situations

Unit Mapping Information

This is a new unit. This unit is equivalent to MARK3001A Manoeuvre a vessel up to 24 metres within near coastal waters.

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for MARK002 Manoeuvre a vessel up to 24 metres within near coastal waters

Modification History

Release 1. New unit of competency.

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:

- anchoring a vessel
- determining required action for a range of emergency situations
- handling a disabled or partially disabled vessel
- issuing helm and engine orders
- manoeuvring a vessel through:
 - berthing and leaving a berth in various wind and tidal conditions
 - berthing in a pen
 - coming to and leaving a mooring
 - person overboard
 - towing and being towed
 - turn short around
 - turning a vessel across the tide across the wind
- manoeuvring a vessel to approach an anchorage
- maintaining situational awareness
- manoeuvring to assist vessels in distress
- using a sea anchor.

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:

- effects of displacement and planing hulls
- effects of inboard propulsion units
- effects of rudders and propellers
- effects of interaction with passing or moored vessels
- factors that could adversely affect vessel safety during operations
- features of a vessel that relate to its handling characteristics
- lessening drift and use of oil
- launching boats or life rafts
- manoeuvring characteristics of a vessel:

- in heavy weather
- in heavy swell and surf
- crossing a bar
- in a narrow channel or shallow water
- manoeuvring a vessel astern
- manoeuvring characteristics to beach and refloat the vessel
- manoeuvring characteristics to assist a vessel or aircraft in search and rescue
- means of keeping a vessel out of a trough
- manoeuvring a vessel to position for helicopter evacuation
- precautions in manoeuvring or launching boats or life rafts in bad weather
- procedures for towing and being towed
- techniques for crossing a coastal bar with and against the sea
- trim and displacement
- work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices.

Assessment Conditions

Assessors must satisfy National Vocational Education and Training Regulator (NVR)/Australian Quality Training Framework (AQTF) assessor requirements.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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.

Resources for assessment must include access to:

- tools, equipment, machinery, materials and personal protective equipment currently used in industry
- applicable documentation such as legislation, regulations, codes of practice, workplace procedures and operational manuals
- range of relevant exercises, case studies and/or simulations.

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