



Australian Government

MARK004 Perform basic vessel manoeuvres

Release: 1

MARK004 Perform basic vessel manoeuvres

Modification History

Release 1. New unit of competency.

Application

This unit involves the skills and knowledge required to perform basic manoeuvres on a vessel in normal operating conditions and in emergencies under the direction of the Master.

This unit applies to maritime workers working in the maritime industry as a Watchkeeper Deck; as a Master, Chief Mate or Watchkeeper Deck on ships of less than 500 gross tonnage (GT) in any operating area; as a Master or Chief Mate of vessels less than 3000 GT operating in near coastal waters; as a Master up to 80 metres Near Coastal.

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 operations

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| 1.1 | Vessel heading is maintained within acceptable limits to meet the requirements of the operating situation |
| 1.2 | Alterations of heading and power are smooth and controlled |
| 1.3 | Suitable mode of steering is selected for the manoeuvre to meet the requirements of the operating situation |
| 1.4 | Constant rate of turn techniques are used to achieve constant radius turns during manoeuvres |
| 1.5 | Safe operating limits of vessel propulsion, steering and power systems are not exceeded in normal manoeuvres |

	1.6	Orders of the Master are followed to assist in anchoring and berthing operations
2 Make adjustments to vessel course and speed to maintain safe navigation	2.1	Effects of operational environment on vessel performance are evaluated at regular intervals
	2.2	Implications of the changed operational environment on vessel handling are assessed
	2.3	Appropriate alterations to vessel heading and power are made in response to the assessment of the operational environment
3 Manoeuvre vessel during adverse weather	3.1	Impending adverse weather conditions are identified and implications for vessel operations are evaluated
	3.2	Preparations are made to minimise risk and damage to vessel and personnel
	3.3	Communications are made with engine room to ensure main engines are readied for manoeuvring
	3.4	Master is advised of developments in sea and weather conditions
	3.5	Vessel heading and power is maintained in response to adverse weather and sea conditions
4 Manoeuvre vessel in emergencies under Master's instructions	4.1	Nature of emergency is established and initial action is taken
	4.2	Risk to the vessel and the safety of persons on board is assessed and Master is informed
	4.3	Appropriate manoeuvres under Master's instructions are made during the emergency to maintain the safety of the vessel
	4.4	Propulsion equipment is used and monitored to assist in completing actions safely
	4.5	Safe operating limits of propulsion and steering equipment are not exceeded

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.

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| Operating situation must include: | <ul style="list-style-type: none">• headreach• requirements of the manoeuvre• safe water• stopping distances• tide• weather |
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| Suitable mode of steering must include: | <ul style="list-style-type: none">• automatic pilot• emergency steering• manual steering |
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| Orders include one or more of the following: | <ul style="list-style-type: none">• communication with tugs and pilot vessel• communications with Vessel Traffic Services• engine• helm• internal communication with engine room and berthing stations |
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| Anchoring and berthing operations include one or more of the following: | <ul style="list-style-type: none">• manoeuvring in:<ul style="list-style-type: none">• shallow waters• estuaries• rivers• restricted waters |
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| Operational environment | <ul style="list-style-type: none">• heavy traffic areas |
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includes one or more of the following:

- ice
- marine park areas
- shallow and restricted waters
- traffic separation zones

Alterations must include:

- adjustment of speed to assist collision avoidance
- allowance for current and wind
- appropriate speed in reduced visibility
- speed adjustment for heavy weather conditions

Adverse weather conditions include one or more of the following:

- fog and restricted visibility
- wind and sea conditions that may impact on the safety of the vessel

Preparations include one or more of the following:

- advice to Master
- allocation of extra lookouts
- reduction in speed
- resources to engage manual steering

Nature of emergency includes one or more of the following:

- beaching
- collision
- damage to the vessel
- disabled or partially disabled vessel
- fire
- grounding
- loss of steering gear
- person overboard

Unit Mapping Information

This is a new unit. This unit is equivalent to MARK5001A Perform basic vessel manoeuvres.

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 MARK004 Perform basic vessel manoeuvres

Modification History

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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:

- handling a disabled or partially disabled vessel
- implementing anchoring and berthing procedures
- issuing helm and engine orders
- maintaining situational awareness
- manoeuvring a vessel:
 - in bad weather
 - in heavy swell
 - through coming to and leaving a mooring
- manoeuvring for the rescue of person overboard
- manoeuvring in shallow water
- recognising emergency situations.

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 deadweight, draught, trim, speed and under-keel clearance on turning circles and stopping distances
- effects of wind and current on vessel handling
- effects on vessel handling of wind, currents and bottom topography
- features of a vessel that relate to its handling characteristics
- manoeuvring and engine characteristics for various vessels more than 500 gross tonnage
- manoeuvring problems for vessels more than 500 gross tonnage and appropriate action and solutions
- manoeuvring procedures in and near traffic separation schemes and vessel traffic service areas
- methods for controlling vessel speed and direction
- one's surroundings and changes to these surroundings
- procedures for the rescue of person overboard
- procedures for turning a vessel in various situations

- proper procedures for anchoring and mooring
- safe operating limits of propulsion and power systems, and steering equipment
- squat, shallow-water and similar effects on vessel handling
- 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.

Links

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