



Australian Government

MARH001 Plan and navigate a passage for a vessel up to 12 metres

Release: 1

MARH001 Plan and navigate a passage for a vessel up to 12 metres

Modification History

Release 1. New unit of competency.

Application

This unit involves the skills and knowledge required to conduct the passage of a vessel up to 12 metres within the 15 nautical mile (nm) limit; it includes using the range of equipment found on a vessel to plan and safely conduct the passage.

This unit applies to people working in the maritime industry as a Coxswain Grade 1 on a range of vessels up to 12 metres within the 15 nm limit.

This unit has links to legislative and certification requirements.

Pre-requisite Unit

Not applicable.

Competency Field

H – Navigation

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 Plan passage

- 1.1 Appropriate charts and publications are accessed and checked for currency
- 1.2 Destination is identified, and course and waypoints are plotted
- 1.3 Estimated time of arrival (ETA) at waypoints and final destination are calculated
- 1.4 Safe passage is plotted to comply with all navigational buoys, marks and beacons

- 1.5 Navigational hazards are identified to avoid dangers to vessel
- 1.6 Weather information is accessed to determine expected weather pattern for intended passage
- 1.7 Proposed course is modified as necessary, to meet expected weather conditions
- 1.8 Fuel consumption for passage, including a reserve, is calculated
- 2 Conduct a pre-departure check**
 - 2.1 Propulsion equipment and alarms are tested for serviceability and vessel hull is checked for seaworthiness
 - 2.2 Navigation equipment and alarms are checked to ensure they are in proper working condition and set for the passage
 - 2.3 Navigation equipment is checked for errors and allowances are made in planning the passage
 - 2.4 Fuel is checked to ensure there is adequate fuel on board for intended passage
 - 2.5 Safety equipment is checked for compliance with legislation
 - 2.6 Communications equipment is checked to ensure it is in proper working condition
 - 2.7 Anchoring and mooring equipment is checked to ensure it is adequate and in good condition
 - 2.8 Vessel and equipment are secured for sea
- 3 Conduct passage**
 - 3.1 Local authorities are advised of departure and passage plan
 - 3.2 Vessel is steered and propulsion equipment is operated in a safe and controlled manner to complete pre-planned course
 - 3.3 Pilotage techniques and navigational equipment are used to monitor vessel position and maintain vessel in safe waters at all times
 - 3.4 Errors detected with navigational equipment are corrected to maintain planned passage
 - 3.5 Navigational buoys, marks and beacons are identified and complied with
 - 3.6 Situational awareness is maintained to avoid navigational

hazards and to comply with regulations for prevention of collision at sea

- 3.7 Weather and sea conditions are monitored during passage and correct adjustments are made for changing conditions

4 Complete passage

- 4.1 Local authority is advised of completion of passage
- 4.2 Vessel is checked to ensure it is securely moored
- 4.3 Propulsion equipment is checked to ensure it is safely shut down and secured
- 4.4 Navigational equipment is switched off

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.

Charts and publications must include:

- electronic charts
- notice to mariners
- paper charts
- tide tables

Navigational hazards include one or more of the following:

- restricted visibility
- shallow water
- traffic
- unlit beacons

Propulsion equipment

- inboard engine

includes one or more of the following:

- outboard engine

Alarms include one or more of the following:

- bilge alarms
- depth alarms
- engine alarms
- off-course alarms
- radar range alarms

Navigation equipment includes one or more of the following:

- automatic identification systems (AISs)
- compass
- echo sounder
- electronic chart systems (ECSs) and plotter
- paper charts
- global positioning system (GPS)
- radar

Safety equipment includes one or more of the following:

- distress flares/pyrotechnics
- electronic position indicating radio beacon (EPIRB)
- firefighting equipment
- life jackets
- life rafts and hydrostatic release systems

Communications equipment includes one of the following:

- HF radio
- VHF radio

Anchoring and mooring equipment includes one or more of the following:

- anchor
- mooring lines
- sea anchors

Passage plan must include:

- anticipated weather conditions
- courses to steer or knowledge of navigation markers during the passage
- depths of water throughout the passage
- ETA at destination
- tidal information

Unit Mapping Information

This is a new unit. This unit is equivalent to MARH2001A Plan and navigate a passage for a vessel up to 12 metres.

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 MARH001 Plan and navigate a passage for a vessel up to 12 metres

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:

- applying International Regulations for Preventing Collisions at Sea
- applying weather information during passage planning and explaining expected weather patterns
- correctly interpreting weather information received
- establishing relationship between degrees and minutes of latitude, with nautical miles
- explaining impact of tidal variation on chart depths
- identifying and complying with all navigational buoys, marks and beacons
- identifying and responding to relevant proximity alarms
- identifying:
 - courses to steer between turning points
 - navigational hazards
 - times and heights of high and low water from local tide tables
- obtaining weather information applicable to an intended passage
- plotting the position derived from global positioning system (GPS) and explaining the dangers of reliance on the use of GPS in coastal areas
- plotting visual bearings on a chart to derive a position
- relating information in forecasts to conditions expected for small vessels
- specifying fuel consumption and time at turning points
- steering a pre-planned course.

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:

- action to be taken on receiving adverse weather report and on encountering heavy weather
- appreciation of manoeuvring difficulties of larger vessels
- basic information contained in a navigation chart
- basic meteorological terms
- basic pilotage techniques
- chart information (symbols and abbreviations)

- coastal features
- cyclonic and storm development
- dangers to navigation
- electronic aids and their limitations including sourcing and applying chart corrections
- local weather patterns including features on a synoptic weather chart
- propulsion equipment
- radio equipment
- sources of weather reports and warnings
- speed, distance and time calculations
- types of reports available
- use of a compass and compass errors
- use of local tide tables
- 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.

(NOTE: simulator is only appropriate for planning and navigation; simulator IS NOT appropriate for vessel handling.)

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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