



Australian Government

# **MARB060 Slip or dock a vessel and maintain hull on a vessel up to 100 metres**

Release: 1

# **MARB060 Slip or dock a vessel and maintain hull on a vessel up to 100 metres**

## **Modification History**

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

## **Application**

This unit involves the skills and knowledge required to slip or dock a vessel of up to 100 metres and carry out all required maintenance procedures to manage hull deterioration and maintain the watertight integrity of the vessel.

This unit applies to people working in the maritime industry in the capacity of:

- Master up to 24 metres Near Coastal
- Master up to 45 metres Near Coastal
- Master Inland Waters

## **Licensing/Regulatory Information**

Legislative and regulatory requirements are applicable to this unit.

This unit is one of the requirements to obtain Australian Maritime Safety Authority (AMSA) certification as a Master Inland Waters, Master up to 24 metres Near Coastal and Master up to 45metres Near Coastal as specified in Marine Order 505.

Seafarers seeking certification should check with AMSA.

## **Pre-requisite Unit**

Not Applicable.

## **Competency Field**

B – Equipment Checking and Maintenance

## **Unit Sector**

Not Applicable.

## **Elements and Performance Criteria**

### **ELEMENTS**

### **PERFORMANCE CRITERIA**

Elements describe the essential outcomes.

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

**1 Safely dock vessel into dry dock or slipway**

- 1.1** Slipway or dry dock particulars are assessed for suitability for dry docking or slipping vessel
- 1.2** Ship supports, scaffolding and other service systems are assessed for compatibility to dry dock or slipway particulars
- 1.3** Plan is prepared for docking or slipping vessel
- 1.4** Cradle, supports and/or slings are assessed for suitability for dry docking or slipping vessel
- 1.5** Vessel is made ready for slipping according to organisational and dry dock requirements
- 1.6** Vessel is slipped according to environmental safe work practices and safety instructions

**2 Inspect underwater hull, equipment and fittings**

- 2.1** Checks of vessel hull, equipment and fittings are carried out according to maintenance schedules and vessel manufacturer instructions
- 2.2** Deterioration in vessel structure, equipment and fittings is identified
- 2.3** Checks on watertight integrity of vessel are carried out according to organisational procedures and safety regulations
- 2.4** Damage to watertight integrity is identified and appropriate action is determined
- 2.5** Listed work plan is prepared to rectify all identified faults
- 2.6** Surveyor or authorised person is engaged to ensure appropriate certification can be issued or endorsed on completion of work, as required

**3 Select and use maintenance equipment and materials**

- 3.1** Tools and equipment are correctly identified, selected and used
- 3.2** Maintenance materials are obtained, prepared and used according to organisational procedures and manufacturer instructions

- 3.3 Environmental procedures are followed and waste from cleaning and maintenance tasks is collected, treated and disposed of, or recycled, according to organisational procedures
  - 3.4 Malfunctions, faults, wear or damage to tools are reported according to organisational procedures
  - 3.5 Equipment and tools are cleaned, returned to operating order and stored according to organisational procedures and manufacturer instructions
  - 3.6 Chemicals are used and stored according to organisational procedures and manufacturer instructions
  - 3.7 Paint is used and stored according to organisational procedures and manufacturer instructions
- 4 **Carry out required maintenance and repairs to hull, equipment and fittings**
  - 4.1 Suitable personal protective equipment (PPE) is selected and used according to work health and safety (WHS)/occupational health and safety (OHS) requirements
  - 4.2 Permits for hot work, confined space entry and other high risk activities are completed according to organisational and regulatory requirements
  - 4.3 Faults and imperfections in painted surfaces are repaired according to organisational procedures
  - 4.4 Weathered surfaces are restored using cleaners and liquid abrasives
  - 4.5 Lubricants are applied to moving parts of vessel underwater equipment according to manufacturer instructions
  - 4.6 Corrosion control is carried out according to organisational procedures and manufacturer instructions
  - 4.7 Action to ensure watertight integrity is completed
  - 4.8 Routine adjustments are made to equipment and fittings according to manufacturer instructions
  - 4.9 Faulty vessel machinery and fittings are identified and replacement procedures are implemented
- 5 **Supervise crew completing maintenance**
  - 5.1 Workload is organised in order of priority, taking into

|                                                    |                                                                                                                                                                                                   |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>and repairs to hull, equipment and fittings</b> | consideration all listed work, including survey work                                                                                                                                              |
|                                                    | <b>5.2</b> Maintenance tasks are allocated to appropriate crew members with consideration of individual experience and qualifications                                                             |
|                                                    | <b>5.3</b> Crew members are clearly briefed on their responsibility, maintenance tasks and WHS/OHS requirements                                                                                   |
|                                                    | <b>5.4</b> Guidance is provided appropriate to the maintenance task and individual experience                                                                                                     |
|                                                    | <b>5.5</b> Completed work is checked to ensure maintenance is performed according to dry dock plan and organisational procedures                                                                  |
| <b>6 Complete duties prior to re-floating</b>      | <b>6.1</b> Final internal inspection of vessel is conducted to ensure all listed work is completed to a satisfactory standard                                                                     |
|                                                    | <b>6.2</b> External inspection of hull and underside is carried out to ensure all listed work is completed to a satisfactory standard                                                             |
|                                                    | <b>6.3</b> All tank plugs that have been drawn are replaced                                                                                                                                       |
|                                                    | <b>6.4</b> Crew are instructed on activities to be completed to make vessel ready for sailing                                                                                                     |
|                                                    | <b>6.5</b> Check is conducted to ensure a full set of tank soundings has been taken and the distribution of freshwater, fuel and lubricating oil are according to soundings taken on arrival      |
|                                                    | <b>6.6</b> Tank quantities are applied to complete stability check to ensure that the vessel has an acceptable Metacentric Height (GM) once the vessel floats clear of the keel blocks or slipway |
|                                                    | <b>6.7</b> Hatch covers are closed and watertight integrity of uppermost deck is assured                                                                                                          |
|                                                    | <b>6.8</b> Anchors and cables are heaved up and stowed correctly, and all shore pipelines and powerlines are disconnected                                                                         |
|                                                    | <b>6.9</b> Confirmation that re-floating can proceed is agreed with person in charge of re-floating operation                                                                                     |

## Foundation Skills

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

## Range of Conditions

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

## Unit Mapping Information

This unit replaces and is equivalent to MARB030 Slip or dock a vessel and maintain hull on a vessel up to 80 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 MARB060 Slip or dock a vessel and maintain hull on a vessel up to 100 metres

## 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:

- completing maintenance records
- completing permits for high risk activities
- inspecting underwater hull, equipment and fittings
- preparing vessel for slipping or docking
- ranging and examining anchors and cables
- reading, interpreting and applying:
  - manufacturer instructions, including all work health and safety (WHS)/occupational health and safety (OHS) requirements
  - operating and service manuals for the slipping or docking of a vessel and the maintenance of its hull
  - safety data sheets (SDS)/material safety data sheets (MSDS)
- recognising faulty equipment
- recognising hull damage and deterioration, and taking appropriate actioning according to organisational procedures
- selecting and using correct tools, equipment and materials for maintenance tasks
- supervising crew completing maintenance, including:
  - allocating tasks
  - briefing crew and providing guidance
  - checking completed work
  - organising workload.

## 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:

- checks to be carried out prior to re-floating
- component parts, operation and routine maintenance requirements of vessel equipment and fittings
- construction material and regulations governing structure

- dangers of working in confined spaces
- duties prior to re-floating, including:
  - developing effective planning documents for docking or slipping vessel maintenance
  - implementing safe and environmentally responsible work practices
- equipment cleaning and preservation techniques
- factors to be considered in assessing suitability of slipway or dry dock, including:
  - acceptable draught
  - appropriate lifting equipment
  - dimensions
  - electric power supply and other service systems
  - firefighting provisions
  - insurances
  - policy and facility for atmospheric checks of confined spaces
  - responsibility for WHS/OHS
  - safe vessel access and egress
  - vessel supports and scaffolding
- hull damage and deterioration, and action required according to organisational procedures
- maintenance hazards and problems
- nature and causes of corrosion of marine surfaces and structures, and the available methods for its control
- organisational procedures for cleaning and maintenance
- paint types, applications, use and storage preservatives and finishes used in marine maintenance and the related procedures for their handling, preparation, application and storage
- paints, preservatives and finishes used in marine maintenance and the related procedures for their handling, preparation, application and storage
- precautions and procedures for working in confined spaces in compliance with Australian Standards and WHS/OHS
- preparing cradle, supports and or slings
- principal features of structure of vessels
- principles and procedures of lubrication as they relate to underwater vessel equipment and fittings
- procedures for carrying out maintenance tasks, including:
  - applying lubricants
  - corrosion control
  - repairing painted surfaces
  - replacing faulty vessel machinery and fittings
  - restoring surfaces using cleaners and liquid abrasives
  - routine adjustments to equipment and fittings
- procedures for:
  - checking and inspecting vessel hull as part of routine maintenance procedures

- initiating and coordinating repair and or replacement of underwater equipment and fittings
- process for liaising with surveyor to ensure work is carried out according to regulatory requirements for the issue or endorsement of relevant certificates
- regulatory vessel certification requirements
- relevant sections of state and territory regulations, and Marine Order 505 dealing with master's responsibilities
- relevant WHS/OHS and pollution control legislation
- safe and environmentally responsible work practices when:
  - applying paint
  - disposing of waste from hull scraping operations
  - disposing of waste material
  - transferring fuel
- slipping and docking procedures suitable for various types of hull forms
- slipping or docking a vessel safely
- stability as it applies to slipping and docking a vessel
- stability as it relates to docking or slipping operations and re-floating
- steering gear arrangements and safety features
- storage principles for paints, chemicals and cleaning agents used in planned maintenance operations
- travel lifts
- types, characteristics and functions of:
  - equipment or tools used in cleaning and maintenance
  - underwater vessel machinery and equipment
- use and storage of chemicals
- withdrawal and examination of:
  - propeller and shafts
  - rudder and rudder stock.

## 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 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 a 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, safety management system (SMS), workplace procedures and operational manuals, including:
  - manufacturer instructions
  - operating or service manuals for the slipping or docking of a vessel and the maintenance of its hull
  - WHS/OHS requirements
  - SDS/MSDS
- a commercial vessel greater than or equal to 7.5 m in length.
- tools, equipment, machinery, materials and relevant personal protective equipment (PPE) currently used in industry.

## Links

Companion Volume Implementation Guides are found in VETNet -

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