



Australian Government

MARB005 Slip or dock a vessel and maintain hull on a vessel up to 80 metres

Release: 1

MARB005 Slip or dock a vessel and maintain hull on a vessel up to 80 metres

Modification History

Release 1. New unit of competency.

Application

This unit involves the skills and knowledge required to slip or dock a vessel of up to 80 metres and carry out all required maintenance procedures to manage hull deterioration and to maintain the watertight integrity of the vessel.

This unit applies to people working in the maritime industry on a range of vessels up to 80 metres in near coastal waters.

This unit has links to legislative and certification requirements.

Pre-requisite Unit

Not applicable.

Competency Field

B – Equipment Checking and Maintenance

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 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 prepared prior to 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, where applicable
- 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**
- 4.1 Suitable personal protective clothing is selected and used

maintenance and repairs to hull, equipment and fittings		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 and repairs to hull, equipment and fittings	5.1	Workload is organised in order of priority, taking into consideration all listed work including survey work
	5.2	Maintenance tasks are allocated to appropriate crew members with consideration of individual experience and qualifications
	5.3	Crew members are clearly briefed on their responsibility, maintenance tasks and WHS/OHS requirements
	5.4	Guidance is provided appropriate to the maintenance task and individual experience
	5.5	Completed work is checked to ensure maintenance is performed according to dry dock plan and organisational procedures
6 Complete duties prior to refloating	6.1	Final internal inspection of vessel is conducted to ensure all listed work is completed to a satisfactory standard
	6.2	External inspection of hull and underside is carried out to ensure all listed work is completed to a satisfactory standard

- 6.3 All tank plugs that have been drawn are replaced
- 6.4 Crew are instructed on activities to be completed to make vessel ready for sailing
- 6.5 Check is conducted to ensure a full set of tank soundings has been taken and the distribution of fresh water, fuel and lubricating oil are according to soundings taken on arrival
- 6.6 Tank quantities are applied to complete stability check to ensure that the vessel has an acceptable GM once she floats clear of the keel blocks or slipway
- 6.7 All hatch covers are closed and watertight integrity of uppermost deck is assured
- 6.8 Anchors and cables are heaved up and stowed correctly, and all shore pipelines and powerlines are disconnected
- 6.9 Confirmation that refloating can proceed is agreed with person in charge of refloating operation

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.

Slipway or dry dock particulars include one or more of the following:

- acceptable draught
- crane lifting capacities
- dimensions

- electric power supply
- firefighting provisions
- insurances
- policy and facility for atmospheric checks of confined spaces
- responsibility for WHS/OHS
- safe vessel access
- safe working load
- travel lifts and appropriate lifting equipment
- type of floor

Environmental procedures must include:

- application of paint
- disposal of waste from hull scraping operations
- disposal of waste material
- fuel transfer operations

Routine adjustments include one or more of the following:

- ranging and examination of anchors and cables
- withdrawing and examination of:
 - propeller and shafts
 - rudder and rudder stock

Unit Mapping Information

This is a new unit. This unit is equivalent to MARB3005A 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 MARB005 Slip or dock a vessel and maintain hull on a vessel up to 80 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:

- completing maintenance records
- developing effective planning documents
- implementing safe and environmentally responsible work practices
- liaising with surveyor to ensure work is carried out to regulatory requirements for the issue or endorsement of relevant certificates
- reading, interpreting and applying:
 - operating and service manuals for the slipping/docking of a vessel and the maintenance of its hull
 - manufacturer instructions including all WHS/OHS requirements and 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 and equipment for maintenance task.

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:

- basic stability and stability terms
- component parts, operation and routine maintenance requirements of vessel equipment and fittings
- equipment cleaning and preservation techniques
- 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 and applications
- preservatives and finishes used in marine maintenance and the related procedures for their handling, preparation, application and storage
- principal features of structure of vessels

- principles and procedures of lubrication as they relate to underwater vessel equipment and fittings
- procedures for:
 - working in confined spaces
 - initiating and coordinating repair and/or replacement of underwater equipment and fittings
 - checking and inspecting vessel hull as part of routine maintenance procedures
- regulatory certification requirements
- relevant sections of state and territory regulations, National Standard for Commercial Vessels (NSCV) Code and Uniform Shipping Laws (USL) Code dealing with Master responsibilities
- relevant WHS/OHS and pollution control legislation
- rust treatment
- slipping and docking procedures suitable for various types of hull forms
- stability as it relates to docking or slipping operation and refloating
- types, characteristics and functions of:
 - underwater vessel machinery and equipment
 - equipment/tools used in cleaning and maintenance.

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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