



**Australian Government**

# **MARC1001A Carry out shore-based mooring and untying operations**

**Release 1**

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## **Modification History**

Release 1

This is the first release of this unit.

This unit replaces and is equivalent to TDMMR5607A Carry out shore-based mooring and untying operations.

## **Unit Descriptor**

This unit involves the skills and knowledge required to carry out shore-based mooring and untying operations according to relevant requirements and regulations.

## **Application of the Unit**

This unit applies to people working in the maritime industry under supervision as a shore-based lines person.

## **Licensing/Regulatory Information**

Not applicable.

## **Pre-Requisites**

Not applicable.

## **Employability Skills Information**

This unit contains employability skills.

## **Elements and Performance Criteria Pre-Content**

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

## Elements and Performance Criteria

- |   |   |
|---|---|
| <b>1 Prepare a berth</b>                          | <p>1.1 <i>Relevant documentation and records</i> are identified and accessed as required</p> <p>1.2 Positioning information is obtained, checked and confirmed as accurate</p> <p>1.3 <i>Bridge marker</i> is set</p> <p>1.4 Briefing is obtained and interpreted on any <i>issues related to mooring or untying operation</i></p> <p>1.5 Communications equipment is prepared and set to correct channels</p> <p>1.6 Berth conditions are checked and <i>made clear and ready for mooring</i></p> <p>1.7 Portainer cranes are correctly positioned for berthing of vessel</p> <p>1.8 Safety concerns are communicated to pilot of vessel with due care not to interfere with tug and vessel communications</p> |
| <b>2 Receive heaving line from mooring launch</b> | <p>2.1 First line is received from mooring launch according to operational procedures and pilot directions</p> <p>2.2 Assistance is provided in pulling mooring line ashore and making it fast to applicable bollard</p> <p>2.3 Required precautions and safety procedures are followed during receival operations</p>  |
| <b>3 Receive heaving lines from vessel</b>        | <p>3.1 First lines are received and are made fast to appropriate bollards</p> <p>3.2 Where possible, two headlines and two sternlines are made available each to two different bollards</p> <p>3.3 Spring lines from forward and aft are received from vessel and are attached to applicable bollards</p> <p>3.4 Additional lines are received from vessel and attached to applicable bollards</p>  |
| <b>4 Return heaving line to vessel</b>            | <p>4.1 Vessel crew are made aware of planned heaving line return operations</p> <p>4.2 Lines are returned according to operational procedures</p> <p>4.3 Required precautions and safety procedures are followed during heaving line return operations</p>  |

- 5 Land a gangway**
- 5.1 Precautions are taken to ensure all personnel are well clear of vicinity of gangway
  - 5.2 Vehicle is used to locate gangway in correct position in a safe and efficient manner
- 6 Untie and let go vessel**
- 6.1 Vessel crew is made aware of intentions to let go
  - 6.2 Singling up processes are carried out according to operational procedures and required *safety precautions*
  - 6.3 Due care is taken during singling up processes to ensure aft springs and stern lines are kept clear of propeller
  - 6.4 Due care is taken when waiting for order for remaining lines to be released to stand clear of remaining lines because of strain to which lines may be subjected
  - 6.5 Once order is given, remaining lines are released according to operational procedures and required safety precautions
  - 6.6 When vessel crew inadvertently heaves on a line being handled by shore-side team, line is let go immediately
  - 6.7 Required precautions and safety procedures are followed during untying operations

## Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

### Required Skills:

- Communicate effectively with other personnel when mooring and untying a vessel using standard nautical terms
- Comply with relevant maritime regulations and International Maritime Organization (IMO) Conventions and Codes, including the relevant sections of the Australian Maritime Safety Authority (AMSA) Marine Orders as they apply to mooring and untying operations on ocean-going vessels
- Follow work instructions
- Handle rope appropriately and correctly:
  - storing and caring for ropes and lines
  - tying knots such as bowline, reef knot, overhand knot, figure of eight knot, sheet bend and clove hitch
  - applying a chain stopper to a wire rope
  - heaving on a line in collaboration with other members of a mooring team
  - applying a stopper to a synthetic fibre rope
  - applying a chain stopper to a natural cordage rope
  - attaching a line to a bollard or bitt with all lines in correct order such as up through the eye
  - flaking down a rope
  - forming a bight
- Identify and correctly use:
  - various types of ropes, steel wires and mooring equipment
  - personal protective equipment (PPE)
- Implement port and vessel security procedures
- Interpret and follow procedures for mooring and untying operations, including safety instructions and precautions
- Recognise dangers and hazards before and during mooring operations, and take appropriate action to report and/or rectify them
- Recognise problems that may occur during mooring operations and take appropriate action to report and/or resolve them
- Take proper care of ropes and mooring equipment
- Work effectively as a member of a mooring and untying team

### Required Knowledge:

- Communication techniques and equipment required during mooring and untying operations

- Dangers associated with mooring systems:
  - being hit by a line being thrown down from a vessel
  - stepping inside the bight of a line
  - being struck by a parting line
  - mixing rings and wire rope
  - falling off the edge of the wharf into the water
  - back strain from carrying a line, heaving on a line or heaving on a line with one hand
  - 'snap back' when a synthetic line breaks
  - trip hazards such as crane lines
- Factors that affect mooring and untying operations, including the effects of wind, weather, tides, sea conditions, currents, draft changes and surges from passing vessels on mooring and untying operations
- Hazards and problems, and appropriate preventative and remedial action and solutions
- Maritime regulations applicable to mooring and untying vessels
- Methods for mooring and untying a vessel, including all required rope handling techniques and precautions
- Operational characteristics of different types of lines, equipment and facilities used in mooring and untying operations
- Operational procedures and layouts of various types of shore-side loading and discharging terminals and wharves
- PPE required for use during mooring and untying operations
- Procedures for assessing stresses on lines and gear used in mooring and untying operations
- Relevant sections of STCW 95 and AMSA Marine Orders
- Relevant manufacturer guidelines relating to use of machinery, including instructions on equipment capability and limitations
- Relevant work health and safety (WHS)/occupational health and safety (OHS) codes of practice, policies and procedures
- Standard nautical terms in relation to mooring activities and related equipment

## Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, the required skills and knowledge, the range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency in this unit** The evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the Elements, Performance Criteria, Required Skills, Required Knowledge and include:

- initiating timely action in response to defects or damage
- being aware of own ability and limits to rectify irregularities and faults
- following all orders carefully and systematically
- ensuring behaviour reflects relevant current legislative and regulatory requirements.

**Context of and specific resources for assessment**

Performance is demonstrated consistently over time and in a suitable range of contexts.

Resources for assessment include access to:

- industry-approved marine operations site where carrying out shore-based mooring and untying operations can be conducted
- tools, equipment and PPE currently used in industry
- relevant regulatory and equipment documentation that impacts on work activities
- range of relevant exercises, case studies and/or other simulated practical and knowledge assessments
- appropriate range of relevant operational situations in the workplace.

In both real and simulated environments, access is required to:

- relevant and appropriate materials and equipment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals.

**Method of assessment**

Practical assessment must occur in an:

- appropriately simulated workplace environment and/or
- appropriate range of situations in the workplace.

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate to this unit:

- direct observation of the candidate carrying out shore-based mooring and untying operations
- direct observation of the candidate applying relevant WHS/OHS requirements and work practices.

**Guidance information for assessment**

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

In all cases where practical assessment is used it should be combined with targeted questioning to assess Required Knowledge.

Assessment processes and techniques must be appropriate to the language and literacy requirements of the work being performed and the capacity of the candidate.

## Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below.

- Relevant documentation and records may include:
- Mooring and untying plans, procedures, checklists and instructions
  - Relevant maritime authority instructions
  - Relevant sections of maritime regulations concerning mooring and untying operations
  - Reports and records of mooring operations or any safety incident
  - Rope and equipment manufacturer instructions and procedures
  - Safety instructions and procedures
- Bridge marker must include:
- At night, vehicle with flashing hazard light positioned on bridge marker
  - Flag
- Issues related to mooring or untying operations may include:
- Bollard numbers
  - Special circumstances
- Made clear and ready for mooring may include:
- Removing obstructions
  - Stopping any work that creates excessive dust or noise
- Safety precautions may include:
- Checking:
    - own personal fitness and medical wellbeing
    - whereabouts of edge of wharf
    - whereabouts of other members of mooring/untying team
  - Confirming availability of a personal flotation device upon arrival at mooring operation
  - Keeping work area hazard-free
  - Obtaining and using required PPE (such as safety footwear, safety helmet, suitable gloves, safety vest and reflective braces, personal collar insert for flotation device)
  - Removing rings from fingers to avoid them being caught on steel wire ropes
  - Wearing suitable clothing



## **Unit Sector(s)**

Not applicable.

## **Competency Field**

Equipment Operations