



Australian Government

MARC022 Perform mooring and unmooring activities

Release: 1

MARC022 Perform mooring and unmooring activities

Modification History

Release 1. New unit of competency.

Application

This unit involves the skills and knowledge required to carry out mooring and unmooring activities according to relevant requirements and regulations.

This unit applies to people working in the maritime industry as a Linesperson.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

C – Equipment Operations

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare a berth

PERFORMANCE CRITERIA

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

- 1.1 Relevant documentation and records are identified and accessed as required
- 1.2 Positioning information is obtained, checked and confirmed as accurate
- 1.3 Bridge marker is set
- 1.4 Briefing is obtained and interpreted on issues related to mooring or unmooring operation

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| | 1.5 | Communications equipment is prepared and set to correct channels |
| | 1.6 | Berth conditions are checked, and made clear and ready for mooring and unmooring |
| | 1.7 | Portainer cranes and gantries/loaders are correctly positioned for berthing of vessel |
| | 1.8 | Safety concerns are communicated to pilot of vessel with due care not to interfere with tug and vessel communications |
| 2 | Receive heaving line from mooring launch | |
| | 2.1 | First lines are received from mooring launch according to operational procedures and pilot directions |
| | 2.2 | Assistance is provided in pulling mooring line ashore and making it fast to applicable bollard/hooks |
| | 2.3 | Required precautions and safety procedures are followed during receival operations |
| | 2.4 | Correct method for crossing mooring lines over and between another vessel's mooring lines is followed |
| | 2.5 | When another vessel occupies the bollard, mooring line is dipped as required |
| 3 | Receive heaving lines from vessel | |
| | 3.1 | First lines are received and are made fast to appropriate bollards/ hooks |
| | 3.2 | Two headlines and two sternlines are made available each to two different bollards/hooks |
| | 3.3 | Spring lines from forward and aft are received from vessel and are attached to applicable bollards/hooks |
| | 3.4 | Additional lines are received from vessel and are attached to applicable bollards/hooks |
| | 3.5 | Correct method for crossing mooring lines over and between another vessel's mooring lines is followed |
| | 3.6 | When another vessel occupies the bollard, mooring line is dipped as required |
| | 3.7 | Safe distance from snapback zones and demarcated area is maintained during line tensioning |
| 4 | Return heaving line | |
| | 4.1 | Vessel crew is made aware of planned heaving line return |

	to vessel	operations	
		4.2	Lines are returned according to operational procedures
		4.3	Required precautions and safety procedures are followed during heaving line return operations
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	Let go of 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 all mooring 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 tension 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	Stand clear procedures are immediately implemented when vessel crew inadvertently heaves on a line being handled by the shore-side team
		6.7	Required precautions and safety procedures are followed during unmooring operations

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.

Relevant documentation

- mooring and unmooring plans, procedures, checklists and

and records include one or more of the following:

- instructions
- relevant maritime authority instructions
- relevant sections of maritime regulations concerning mooring and unmooring operations
- reports and records of mooring and unmooring operations or safety incidents
- rope and equipment manufacturer instructions and procedures
- safety instructions and procedures
- bollard/hook and capstan numbers
- special circumstances

Issues related to mooring or unmooring operations include one or more of the following:

Made clear and ready for mooring includes one of the following:

- removing obstructions
- stopping any work that creates excessive dust or noise

Safety precautions include:

- checking:
 - own personal fitness and medical wellbeing
 - whereabouts of edge of wharf
 - whereabouts of other members of mooring and unmooring team
- confirming availability of a personal flotation device on arrival at mooring and unmooring operation
- keeping clear of snapback zone and demarcated areas
- keeping work area hazard-free
- obtaining and using required PPE (such as safety footwear, safety helmet, suitable gloves, safety vest and reflective clothing, personal life vest, safety glasses)
- removing rings from fingers to avoid them being caught on steel wire ropes
- wearing suitable clothing

Mooring or unmooring operations include

- landing a gangway
- positioning lines launch
- positioning mooring lines
- preparing a berth
- receiving mooring lines under a vessel
- receiving heaving line from:
 - a launch
 - a vessel
- returning heaving line to a vessel
- towing mooring lines using vehicles
- unmooring and letting go a vessel
- working:

- by day or night
- in normal and emergency situations
- under any permissible conditions of weather
- at various shore-side terminals and wharves

Unit Mapping Information

This unit replaces and is equivalent to MARC1001A Carry out shore-based mooring and unmooring operations.

MARC1001A replaces and is equivalent to TDMMR5607A Carry out shore-based mooring and unmooring operations.

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 MARC022 Perform mooring and unmooring activities

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, performance criteria and range of conditions on at least one occasion and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices
- being aware of own ability and limits to rectify irregularities and faults
- communicating effectively with other personnel when mooring and unmooring a vessel using standard nautical terms
- complying 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 unmooring operations on ocean-going vessels
- ensuring behaviour reflects relevant current legislative and regulatory requirements
- following all orders carefully and systematically
- following work instructions
- handling mooring lines on deck of lines launch, flaking and positioning of mooring lines
- handling 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 bends and clove hitch and splicing and whipping, round turn two half hitches
 - 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
- handling wire mooring lines in lines launch
- identifying and correctly using:
 - various types of ropes, steel wires and mooring equipment
 - personal protective equipment (PPE)
- implementing port and vessel security procedures
- initiating timely action in response to defects or damage

- interpreting and following procedures for mooring and unmooring operations, including safety instructions and precautions
- recognising dangers and hazards before and during mooring and unmooring operations, and taking appropriate action to report and/or rectify them
- recognising problems that may occur during mooring and unmooring operations and taking appropriate action to report and/or resolve them
- taking proper care of ropes and mooring equipment
- using various vehicles for towing mooring lines, as required
- working effectively as a member of a mooring and /or unmooring team.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- awareness of line launches propeller when towing mooring lines
- communications techniques and equipment required during mooring and unmooring operations
- correct method of crossing ship's mooring lines over and or between other vessel's mooring lines already berthed
- dangers associated with mooring systems:
 - being hit by a heaving 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
 - 'snap back' when a line breaks
 - trip hazards such as crane lines
- factors that affect mooring and unmooring operations, including the effects of wind, weather, tides, sea conditions, currents, draft changes and surges from passing vessels on mooring and unmooring operations
- hazards and problems, and appropriate preventative and remedial action and solutions
- maritime regulations applicable to mooring and unmooring vessels
- methods for mooring and unmooring a vessel, including all required rope handling techniques and precautions
- operational characteristics of different types of lines, equipment and facilities used in mooring and unmooring operations
- operational procedures and layouts of various types of shore-side loading and discharging terminals and wharves

- PPE required for use during mooring and unmooring operations
- procedures for assessing stresses on lines and gear used in mooring and unmooring operations
- reason for and correct method of dipping mooring line
- relevant manufacturer guidelines relating to use of machinery, including instructions on equipment capability and limitations
- relevant sections of the Standards of Training, Certification & Watchkeeping (STCW) 95 and AMSA Marine Orders
- relevant work WHS/OHS codes of practice, policies and procedures
- safety drills and equipment used for lines launch
- snapback zone and demarcated areas
- standard nautical terms in relation to mooring activities and related equipment
- technique for releasing fouled mooring lines under wharfs and around ship anchors.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

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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.

Assessment must occur in workplace operational situations or where this is not available, in simulated workplace operational situations or an industry-approved marine operations site that replicate workplace conditions where mooring and unmooring activities can be demonstrated.

Resources for assessment include access to:

- a range of relevant exercises, case studies and/or other simulated practical and knowledge assessments
- relevant documentation including workplace procedures, regulations, codes of practice and operation manuals
- tools, equipment, materials and PPE currently used in industry
- bridge marker:
 - at night vehicle with flashing hazard light
 - flag
- vehicles used for towing mooring lines.

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