



Australian Government

MARN003 Perform seamanship operations on board a vessel up to 24 metres

Release: 1

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Modification History

Release 1. New unit of competency.

Application

This unit involves the skills and knowledge required to apply practical seamanship skills and techniques as part of operations on board a vessel up to 24 metres.

This unit applies to a Master working in the maritime industry on vessels up to 24 metres.

This unit has links to legislative and certification requirements.

Pre-requisite Unit

Not applicable.

Competency Field

N – Seamanship

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 Use and maintain ropes and wires

- 1.1 Knots, hitches and bends using rope are correctly made and used in the course of operations on board a vessel
- 1.2 Ropes are spliced neatly and securely according to their correct application and rope ends are whipped where appropriate to maintain good condition
- 1.3 Breaking strain and safe working loads of rope and wire are determined and applied as load limits in the course of operations on board a vessel

- 1.4 Wear and damage to rope and wire are recognised
- 1.5 Rope and wire are maintained and stored according to organisational procedures
- 2 Operate lifting gear**
 - 2.1 Lifting gear is checked and prepared for operation prior to use
 - 2.2 Defective lifting gear is isolated and reported according to organisational procedures
 - 2.3 Loads are correctly attached using appropriate slings and rigging gear according to organisational procedures and safety requirements
 - 2.4 Maximum and safe working load limits are determined and not exceeded
 - 2.5 Lifting gear is safely operated to carry out operations
- 3 Secure vessel at anchor**
 - 3.1 Prior to letting go, anchor and equipment are prepared and crew is briefed
 - 3.2 Quantity of anchor cable run out or recovered is appropriate to depth of water, weather and sea conditions, and tidal range in area of operation
 - 3.3 Control of cable is maintained within safe operating limits during anchoring operations
 - 3.4 Degree to which anchor and equipment are secured on completion of anchoring operations is appropriate to forecast conditions
 - 3.5 Anchoring area is kept free of loose ropes, wires and debris during all operations
- 4 Secure vessel at a berth**
 - 4.1 At all times, mooring lines and associated equipment are handled safely
 - 4.2 Throughout operations, mooring area is kept free of loose ropes, wires and debris
 - 4.3 Tension on ropes is maintained at an appropriate level for stage and nature of the operation
 - 4.4 Tension on shore-power leads and other umbilicals is monitored

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| 5 Check condition and seaworthiness of vessel | <ul style="list-style-type: none">5.1 Coverage and frequency of checks and inspections on vessel seaworthiness are undertaken according to organisational procedures5.2 Watertight integrity is checked and appropriate action is taken to prepare for prevailing and forecast weather and sea conditions according to vessel seaworthiness plans and regulatory requirements5.3 Vessel is secured to degree which is appropriate to prevailing and forecast conditions5.4 Irregularities are identified and appropriate action is taken to rectify the situation5.5 Irregularities beyond ability to rectify are reported in time to enable remedial action to be taken5.6 Reports of vessel condition are completed according to organisational procedures |
| 6 Check stability of vessel | <ul style="list-style-type: none">6.1 Information from vessel stability data book is used to determine loading limits and displacement from draft6.2 Stability conditions for proposed nature of voyage and operations are confirmed and required stress and stability criteria are met |
| 7 Perform tasks aloft and over vessel side | <ul style="list-style-type: none">7.1 Area and equipment for working aloft or over the side are prepared according to organisational procedures7.2 Required precautions are taken when working aloft or over the side7.3 Chairs, safety harnesses and appropriate safety equipment are used according to organisational procedures7.4 Portable ladders are used correctly to perform tasks7.5 Tasks are completed safely according to instructions7.6 Equipment is inspected, maintained and stored after use according to organisational procedures |
| 8 Lash and secure stores, cargo and access ways | <ul style="list-style-type: none">8.1 Lashing equipment is inspected, maintained and correctly stored after use according to organisational procedures8.2 Cargo is stowed according to recognised principles and organisational procedures relating to transport and handling |

of dangerous goods

- 8.3 Cargo is lashed and secured according to recognised principles and organisational procedures
- 8.4 Equipment and items on deck and in galley spaces are secured according to organisational procedures
- 8.5 Personnel access ways are rigged and secured according to organisational procedures
- 8.6 Accommodation spaces and personnel facilities on board vessel are checked and correctly secured for sea according to organisational procedures

9 Supervise refuelling operations

- 9.1 All personal protective equipment is accessed and used
- 9.2 Amount of fuel required is calculated
- 9.3 Instructions are provided to ensure safety boundary for refuelling process is established
- 9.4 Spill prevention systems are correctly deployed
- 9.5 Instructions are provided to ensure refuelling operations are performed safely
- 9.6 Notification of intention to refuel is made to authorities and other nearby operations

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.

Knots, hitches and bends must include:

- bowline
- clove hitch
- cod-end knot
- figure-eight knot
- half hitch
- reef knot
- rolling hitch
- round turn and two half hitches
- sheet bend
- timber hitch

Lifting gear includes one or more of the following:

- blocks (including chain blocks and power blocks)
- cargo handling wires, ropes and chains
- derricks and cranes
- drum ends and capstans
- eye bolts
- hooks
- ropes, slings and strops
- shackles
- swivels

Anchor and equipment includes one or more of the following:

- anchor buoy
- anchor securing arrangements
- anchor windlass
- sea anchor
- single anchor
- twin anchor
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Coverage includes one or more of the following:

- accommodation spaces
- bow doors (barges)
- engine room
- galley
- storage spaces including freezer rooms
- wheelhouse

Secured includes one or more of the following:

- accommodation and storage spaces
- air pipes
- anchors
- doors
- galley, stores and equipment
- hatches
- large objects likely to move in a sea way
- materials on deck and below
- openings
- skylights
- tanks

Irregularities must include:

- affecting the safety and integrity of the:
 - vessel
 - crew and passengers
 - equipment
 - materials, such as cargo

Information must include:

- basic principles of stability
- impact of design and hull
- terms and definitions

Stability conditions must include:

- adding and removing weights
- additions or alterations to original configuration
- effects of slack tanks
- effects of water on deck
- hauling netting using power block
- roll period
- snagged trawl (hookup)
- stiff and tender vessel
- transferring weights using a crane or other lifting device

Tasks include one of the following:

- using portable ladders to access heights up to 1.8 metres
- working at heights more than 1.8 metres

Unit Mapping Information

This is a new unit. This unit is equivalent to MARN3001A Perform seamanship operations on board a vessel up to 24 metres.

Links

MAR Maritime Training Package Companion Volume Implementation Guide at: -
http://companion_volumes.vetnet.education.gov.au/Pages/TrainingPackage.aspx?pid=22