



Australian Government

MARN015 Use seamanship skills on board a vessel

Release: 1

MARN015 Use seamanship skills on board a vessel

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 apply practical seamanship skills as part of operations on a vessel.

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

- Able Seafarer - Engine/Deck
- Integrated Rating
- Navigational Watch - Deck/Engine

who assist the responsible officer in a range of seamanship activities on a range of vessels.

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 an Able Seafarer - Engine/Deck, Integrated Rating or Navigational Watch - Deck/Engine and to meet regulatory requirements this unit must be delivered consistent with Marine Orders and with the relevant sections of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW).
- Those regulatory requirements include STCW International Maritime Organization (IMO) model course competencies and areas of knowledge, understanding and proficiency, together with the estimated total hours required for lectures and practical exercises. Teaching staff should note that timings are suggestions only and should be adapted to suit individual groups of trainees depending on their experience, ability, equipment and staff available for training.

Pre-requisite Unit

Not applicable.

Competency Field

N – Seamanship

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

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

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| 1 Use and maintain ropes and wires | 1.1 Knots, splices, stoppers, whippings and servings are created and used in the course of operations onboard a vessel |
| | 1.2 Ropes are spliced neatly and securely according to their correct application and rope ends are whipped, as required, to maintain good condition |
| | 1.3 Breaking strain and working load limits (WLL) of rope and wire is determined and applied as load limits in the course of operations onboard a vessel |
| | 1.4 Wear and damage to rope and wire are identified and reported |
| | 1.5 Rope and wire are maintained and stored according to workplace procedures |
| 2 Secure vessel at anchor | 2.1 Anchor and equipment are prepared for use according to workplace procedures |
| | 2.2 Control of anchor cable is maintained within safe operating limits during anchoring operations |
| | 2.3 Anchor and equipment are secured on completion of anchoring operations as instructed for anticipated forecast conditions |
| | 2.4 Anchoring area is kept free of loose ropes, wires debris and personnel during all operations |
| 3 Secure vessel at a berth | 3.1 Mooring lines and associated equipment are handled safely at all times |
| | 3.2 Mooring area is kept free of loose ropes, wires and debris throughout operations |
| | 3.3 Rope stoppers are correctly applied to transfer mooring lines when securing vessel or tug |
| | 3.4 Securing a tug using tug or ships lines is carried out safely and tug lines are monitored at all times |

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| | 3.5 | Tension on ropes is maintained at an appropriate level for stage and nature of the operation |
| | 3.6 | Snap-back zones are adhered to when working with lines under tension |
| | 3.7 | Tension on shore power leads and other umbilicals is monitored |
| 4 | Lash and secure stores, cargo and access ways | |
| | 4.1 | Lashing equipment is inspected, maintained and correctly stored after use according to workplace procedures |
| | 4.2 | Cargo is stowed according to recognised principles and workplace procedures and shipboard procedures relating to transporting and handling dangerous goods |
| | 4.3 | Cargo is lashed and secured according to recognised principles and workplace procedures |
| | 4.4 | Equipment and items on deck and in galley spaces are secured according to workplace procedures |
| | 4.5 | Personnel access ways are rigged and secured according to workplace procedures |
| | 4.6 | Accommodation spaces and personnel facilities onboard vessel are checked and correctly secured for sea according to workplace procedures |
| 5 | Conduct fuelling and oil transfer operations | |
| | 5.1 | Appropriate personal protective equipment (PPE) is accessed and used |
| | 5.2 | Safety boundary for fuelling and transferring operations is established |
| | 5.3 | Spill prevention and response (shipboard oil pollution emergency plan (SOPEP) equipment) systems are correctly deployed |
| | 5.4 | Tank levels are correctly measured by sounding and/or ullage and reported pre-fuelling and post-fuelling and transferring operations |
| | 5.5 | Fuelling and transferring operations are performed safely, and associated valves and pipelines are secured on completion to avoid spillages |
| | 5.6 | Appropriate action is taken to handle incidents arising during fuelling and transferring operations according to |

emergency procedures and regulatory requirements

- 5.7** Effective communication is maintained with crew during fuelling and transferring operations to ensure the safety and integrity of the vessel and crew

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 MARN007 Use seamanship skills on board a vessel.

Links

Companion Volume implementation guide can be found in VetNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2>

Assessment Requirements for MARN015 Use seamanship skills on board a vessel

Modification History

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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:

- anchoring a vessel in varying weather conditions
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and safe work practices, including:
 - chemical and biohazard safety
 - lifting techniques and methods of preventing back injury
- coiling and stowing ropes correctly
- handling ropes and wires safely
- handling, stowing and securing dangerous, hazardous and harmful substances and liquids safely
- identifying and correctly using personal protective equipment (PPE)
- lashing and securing moveable equipment, especially on deck, in holds and freezers
- measuring and reporting tank levels correctly by sounding and ullage
- operating anchoring equipment under various conditions, such as anchoring, weighing anchor, securing for sea and in emergencies
- performing:
 - appropriate whippings on ropes and line
 - eye and joining splice in 8-strand multi-plait mooring rope
 - eye splice (with locking tuck) in 6-strand flexible steel wire rope
 - eye splice, joining and a short splice in 3-strand hawser laid rope
- preparing and throwing a heaving line
- securing a vessel at its berth according to operational requirements
- securing from fuelling and transferring operations
- tying a:
 - bowline
 - clove hitch
 - figure-eight knot
 - half hitch
 - reef knot
 - rolling hitch, sheet bend and timber hitch

- round turn and two half hitches
- using basic crane, winch and hoist signals
- using knots and hitches and securing arrangements.

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:

- appropriate use and selection of PPE
- basic crane, winch and hoist signals
- capacities, safe working loads and breaking strengths of mooring equipment, including:
 - anchor windlasses
 - bitts
 - bollards
 - capstans
 - chocks
 - mooring wires
 - synthetic and fibre lines
 - winches
- correct application of common knots and hitches
- dangers of working with ropes under tension
- different type of PPE and their application
- function of mooring and tug lines and how each line functions as part of an overall system
- incidents, including:
 - failure of communications systems
 - leakage from faulty valves and hoses
 - tank overflow
- maintenance of different types of rope, wire and chain
- methods of securing cargo, including vehicles, stores and equipment on a vessel before it puts to sea
- preparations for fuelling and transfer operations
- procedures and order of events associated with mooring to a buoy or buoys
- procedures and order of events for making fast and letting go mooring, tug lines and wires
- procedures and order of events for the use of anchors in various operations
- procedures and precautions for safe handling, stowage and securing of cargo and stores, including dangerous, hazardous and harmful substances and liquids
- procedures for connecting and disconnecting fuelling and transfer hoses
- procedures relating to incidents that may arise during fuelling and transferring operations
- purpose and application of lock out tags
- purpose and application of the Australian Dangerous Goods (ADG) Code and International Maritime Dangerous Goods (IMDG) Code

- purpose of a permit to work and restricted access guidelines
- purpose of safety data sheets (SDS)/material safety data sheets (MSDS)
- relevant WHS/OHS requirements, work practices and pollution control regulation and policies
- safe working practices, procedures and personal shipboard safety when working over the side and working aloft
- types of anchors, principles, method of operation and use in various conditions.

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 Organisations 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.

Seamanship practical assessment must occur in a workplace, or 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, workplace procedures and operational manuals
- tools, equipment, machinery, materials and relevant personal protective equipment (PPE) currently used in industry.

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