



Australian Government

Assessment Requirements for MARN011 Maintain seaworthiness of the ship (ship construction)

Release: 1

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Modification History

Release 1. This is the first release of this unit of competency in the MAR Maritime Training Package.

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:

- adhering to procedures to distinguish between normal and defective and damaged parts of ship
- completing required records
- detecting defects to ballast water tank vents
- detecting defects and damage, including:
 - cargo operation damage
 - damage caused by corrosion
 - damage to structures through heavy weather
- developing damage control plans
- developing effective planning documentation
- identifying elements of the vessel structure that are critical to vessel safety
- inspecting and reporting defects and damage to cargo spaces, hatch covers and ballast tanks
- interpreting and following procedures for the coordination of planned maintenance processes
- preparing appropriate reports on inspection and maintenance outcomes
- reading and interpreting ship specifications and drawings
- taking actions to ensure and maintain the weather tight and watertight integrity of ship.

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:

- application of appropriate safety, environment and hazard control procedures
- causes of corrosion to cargo spaces and ballast tanks, and how corrosion can be identified and prevented
- characteristics of stress and the principal stresses acting on a ship
- corrosion control methods
- coverage of tests, including areas requiring inspection under the planned maintenance schedule and survey requirements
- damage control measures that may be required to maintain the integrity of the hull in a range

of typical emergency situations, including damage control plans and safety management systems (SMS)

- defects and damage, including:
 - corrosion to operating or structural parts of the ship
 - damage to the ship through cargo shift, loading and unloading operations
 - hatch cover seals
 - structural damage through collision, grounding or fire
 - watertight door seals and closing arrangements
- fundamental actions to be taken in the event of partial loss of intact buoyancy
- fundamentals of watertight integrity, including:
 - appropriate equipment is in readiness for damage control
 - avoiding adverse weather
 - checking the watertight security of the ship
 - closing openings
 - free surface is minimised in ballast and fuel tanks
 - freeing ports allow water taken on deck to clear
 - passenger distribution does not exceed allowed limits
 - procedures for restoring or managing weather tight and watertight integrity during an emergency
 - stores, cargo and equipment are properly stowed and lashed
 - tanks and other watertight areas
- inspections of ship, including:
 - ballast tanks
 - cargo space
 - hatch covers
 - hull and fittings during dry-docking
 - inspections required after completion of maintenance work
 - inspections required after docking prior to re-floating
 - inspections to be made after any situation which may have caused damage to the ship
 - order of inspection
 - pre-sailing inspections
 - regulatory inspections
 - routine inspections
 - time periods
- maintenance procedures contained in the SMS
- one's surroundings and changes to these surroundings
- planned maintenance system for ships and associated maintenance inspection procedures
- principal materials, properties and application of materials used in the construction of a ship
- principal structured members and layout of a ship and the proper names for various parts
- principle features of vessel structure and construction

- principles and procedures to ensure the watertight integrity of ship hull in both normal and emergency situations
- principles of load lines and draught marks
- principles of rudder and propellers
- procedures for checking and inspecting ship seaworthiness, including reliable detection of defects and damages
- purpose of the enhanced survey program
- situations that may jeopardise ship weather tight and watertight integrity, including:
 - collision, grounding or fire
 - failure to conduct appropriate inspections
 - heavy weather damage
- structural members of ship, ship construction, layout and subdivision of a ship, including:
 - ballast tanks
 - bow and stern regions
 - bulkheads, including the collision bulkhead and bulkhead deck
 - cargo holds
 - cargo tanks
 - fittings
 - frames
 - freeboard deck
 - freshwater tanks
 - hatch and tank openings
 - hull structure
 - longitudinal and transverse girders
 - shell plating
 - tank tops
 - various types of keel arrangements
 - watertight and weather tight compartments
- work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices.

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.

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, including:
 - equipment manufacturer instructions
 - logbooks, including oil record and garbage logbooks as applicable
 - organisational operation orders under the International Safety Management (ISM) Code for the Safe Operation of Ships and for Pollution Prevention
 - plans and drawings
- tools, equipment, machinery, materials and relevant personal protective equipment (PPE) currently used in industry.

Links

Companion Volume implementation guide can be found in VetNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2>