



Australian Government

Assessment Requirements for MARH021 Manage the navigation of a vessel

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:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices
- assessing accuracy of fix properly
- calculating positions, courses, distances and time correctly within accepted accuracy standards for navigational equipment
- calculating tidal conditions to determine under keel clearances and air drafts
- choosing the most appropriate primary method for fixing vessel position given the prevailing circumstances and conditions
- conducting performance checks of navigation position fixing instruments and systems
- determining and allowing for errors of magnetic and gyrocompass
- determining position in all conditions by celestial observations and terrestrial observations, and using modern navigational aids within accepted accuracy levels
- ensuring currency of relevant legislative and regulatory knowledge
- ensuring currency of relevant reference material
- enumerating the equipment, charts and nautical publications required for the voyage and appropriate to the safe conduct of the voyage
- establishing and maintaining watchkeeping arrangements in compliance with international regulations and guidelines so as to ensure the safety of navigation, protection of the marine environment, and the safety of the vessel and persons onboard
- identifying all potential navigational hazards accurately
- planning, navigating and monitoring a voyage for all conditions, including:
 - areas of extensive tidal effects
 - ice
 - meteorological conditions
 - restricted visibility
 - restricted waters
 - traffic separation schemes
 - vessel traffic service (VTS) areas
- recognising faulty equipment and readings, and taking appropriate action

- recognising problems that may be experienced when planning and navigating a passage, and taking appropriate action
- reporting according to General Principles for Ship Reporting Systems and VTS procedures
- supporting reasons for planned route using facts and statistical data obtained from relevant sources and publications
- undertaking routeing according to the General Provisions on Ships' Routeing
- using chart catalogues, charts, nautical publications and vessel particulars to plan and navigate a passage.

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:

- Australian Maritime Safety Authority (AMSA) International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) including the Manila Amendments
- bridge watchkeeping equipment and systems, including:
 - Bridge Navigational Watch Alarm Systems (BNWAS)
 - voyage data and simplified data recorder
- content, application and intent of bridge resource management principles to be observed in keeping a navigational watch
- content, application and intent of the International Regulations for Preventing Collisions at Sea (COLREGs)
- emergencies, including:
 - engine failure
 - failure of navigational equipment
 - potential close quarter situations
- General Principles for Ship Reporting Systems
- General Provisions on Ships' Routeing
- heightened risk situations, including:
 - adverse weather
 - areas of extensive tidal effects
 - ice
 - restricted visibility
 - restricted waters
 - traffic separation schemes
 - VTS areas
- integrated bridge systems
- logbooks and voyage records
- method and frequency of checks for errors of magnetic and gyrocompasses to ensure accuracy of information
- methods for fixing position of a vessel

- modern electronic navigational aids, their operating principles, limitations, sources of error, detection of misrepresentation of information and methods of correction to obtain accurate position fixing
- non-routine problems, including:
 - equipment failure
 - extreme weather conditions that would impact a vessels position
 - potential collision and emergency situations
 - steaming in company
- operation and care of the main types of gyrocompass
- position determination, including:
 - azimuth mirrors
 - chronometer
 - doppler and electronic logs
 - echo sounders
 - electronic chart system (ECS) and electronic chart display and information system (ECDIS)
 - integrated navigation systems
 - magnetic and gyrocompasses and repeaters
 - radar and other electronic navigation devices
- principles of magnetic and gyrocompasses
- problems experienced when fixing vessel position and appropriate action and solutions
- procedures for filing and maintaining navigational charts, nautical publications and related documentation in serviceable condition
- procedures for swinging a vessel to determine deviation
- relevant AMSA Marine Orders
- requirements for effective passage planning, including contingency planning
- systems under control of the master gyro
- vessel reporting systems and their use in planning and conducting a voyage
- voyage planning and navigation for all conditions by acceptable methods of plotting ocean tracks
- VTS procedures
- watchkeeping arrangements include:
 - clear instruction to watchkeeping officers in the Standing Orders from the Master
 - establishing a proper lookout separate from the helmsman
 - fatigue management strategies
 - watch handover procedures
- WHS/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:
 - annual and weekly notices to mariners
 - nautical almanac
 - radio signals, light lists, sailing directions, tide tables and chart catalogues
 - ship reporting systems and requirements
 - ship's routing information
 - SMS procedures
- 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>