



Australian Government

**Assessment Requirements for MARH023
Use of electronic chart display and
information system (ECDIS) to maintain
the safety of navigation**

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Modification History

Release 2. This is the second release of this unit of competency in the MAR Maritime Training Package.

- Minor statement changes in unit Application
- Minor statement changes in Performance Evidence
- Minor ECS statement changes in Knowledge Evidence.

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:

- adjusting settings and values to suit present conditions, including:
 - alarm parameters for anti-grounding
 - back-up arrangements
 - chart update status
 - completeness of chart data
 - proximity to contacts and special areas
- applying relevant legislation, regulations and guidelines
- communicating in a clear concise manner, at all times
- conducting tests for malfunctions, including functional self-testing and interpreting the test results
- confirming vessel position by alternative means
- ensuring integrity of back-up systems
- ensuring integrity of data
- maintaining situational awareness while using electronic chart display and information system (ECDIS), including:
 - chart data and scale selection
 - contact detection and management
 - integrity of sensors
 - safe water and proximity of hazards
 - set and drift
 - suitability of route
- monitoring and adjusting information on ECDIS including:

- chart data displayed
- contacts
- mode and orientation
- own position
- radar overlay functions
- radar tracking
- route monitoring
- sea area display
- user-created information layers
- operating ECDIS when interfaced with automatic identification system (AIS) and interpreting AIS data
- planning a passage on a display using ECDIS
- setting up initial display and maintaining display
- setting up, operating, interpreting and analysing information, including:
 - adequate and up-to-date electronic charts
 - back-up systems
 - electronic position fixing system
 - gyro and log
 - raster charts
 - uninterruptable power supply (UPS)
 - vector electronic chart systems
 - when radar overlay is in use
- storing data electronically, including:
 - chart correction information
 - electronic navigational chart (ENC) source, date and edition
 - vessel voyage details
- using ECDIS targets, charts and systems
- using functions that are integrated with other navigation systems in various installations
- using settings efficiently to ensure conformance to operational procedures.

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:

- AIS input
- dangers of over-reliance
- differences between ECDIS, electronic charting system (ECS), electronic navigation & electronic charts and raster chart display system (RCDS)
- differences between vector and raster charts
- elements of ECDIS, including:
 - basic navigation

- chart data
- chart organisation
- chart quality and accuracy
- correct and incorrect use
- heading and drift vectors
- position source
- purpose of ECDIS
- value to navigation
- vessel position
- workstation start, stop and layout
- ECDIS route planning and monitoring, including:
 - additional navigational information
 - checking plan for safety
 - route planning by table and chart
 - route schedule
 - track limits
 - user charts in route planning
 - vessel manoeuvring characteristics
- ECDIS targets, charts and systems, including:
 - AIS functions
 - archiving ECDIS data and data logging
 - automatic radar plotting aid (ARPA)/radar overlay
 - installing chart corrections
 - procuring and installing chart data
 - system reset and back-up
- ECDIS responsibility and assessment, including:
 - effective navigation with ECDIS
 - responsibilities under relevant legislation, regulations and guidelines
- functions of ECDIS required by performance standards in force
- principles, capability and limitations of ECDIS operations
- process used to correct and update charts by manual, semi-automatic and automatic systems
- radar/ ARPA input
- requirements for voyage recording
- significance of chart alarms and indicator warnings
- system and position alarms, including:
 - approach to waypoint, critical point, navigation danger and other ships
 - chart alarms
 - depth and contour alarms
 - mode losses
 - primary failure

- use of ECDIS in emergency situations
- watchkeeping with ECDIS, including:
 - changing the settings
 - chart information
 - chart scaling
 - information layers
 - ports and data feeds
 - sensors
- 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
- simulator exercises for:
 - coastal waters
 - coastal and restricted waters
 - coastal waters and restricted waters
 - open sea
 - restricted waters
- simulator exercises for:
 - coastal waters and restricted waters (navigation alarms and route scheduling)
 - coastal waters (chart display settings)
 - coastal and restricted waters (underway ECDIS navigation assessment)
 - open sea (basic integrated navigation)
 - restricted waters (advanced integrated navigation with ECDIS)

- tools, equipment, machinery, materials and relevant personal protective equipment (PPE) currently used in industry.

Links

Companion Volume Implementation Guides are found in VETNet -

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