



Australian Government

MARH009 Use an electronic chart display and information system to navigate safely

Release: 1

MARH009 Use an electronic chart display and information system to navigate safely

Modification History

Not applicable.

Application

This unit involves the skills and knowledge required to maintain safe navigation of a commercial vessel greater than 500 gross tonnage (GT) using an electronic chart display and information system (ECDIS).

This unit applies to a Watchkeeper Deck, a Master up to 500 GT, a Master up to 80 metres Near Coastal or a Master Unlimited.

This unit has links to legislative and certification requirements.

Pre-requisite Unit

Not applicable.

Competency Field

H – Navigation

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 Set up an ECDIS

- 1.1 ECDIS is initialised and programmed with own vessel data
- 1.2 Operational performance and accuracy of ECDIS is confirmed
- 1.3 Settings and values are adjusted to suit conditions for passage planning and navigation
- 1.4 Means of providing additional information is correctly interfaced with ECDIS

2 Use an ECDIS for

- 2.1 ECDIS is used to assist in passage planning and the conduct

passage planning and navigation		of navigation
	2.2	Information on ECDIS is monitored to ensure safe navigation
	2.3	Information obtained from ECDIS is interpreted and analysed taking into account limitations of equipment, all connected sensors and prevailing circumstances and conditions
	2.4	Position of vessel is confirmed by alternative means
	2.5	Safety of navigation is maintained through adjustments made to vessel course and speed
	2.6	System and position alarms are responded to, to maintain safety of navigation
	2.7	Situational awareness is maintained while using ECDIS
3 Maintain data	3.1	Data produced by ECDIS that should be retained to conform with organisational procedures and regulatory requirements is identified
	3.2	Data is stored electronically or in hard copy as required by organisational procedures and regulatory requirements
	3.3	Security and access requirements for data are adhered to in accordance with organisational procedures

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.

ECDIS must include:	• adequate and up-to-date back-up paper charts • adequate and up-to-date electronic charts • back-up systems • electronic position fixing system • gyro and log • raster charts • uninterruptable power supply • vector electronic chart systems
Settings include one or more of the following:	• alarm parameters for anti-grounding • back-up arrangements • chart update status • completeness of chart data • proximity to contacts and special areas
Additional information must include:	• automatic identification system (AIS) input • radar/automatic radar plotting aid (ARPA) input
Information includes one or more of the following:	• chart data displayed • contacts • mode and orientation • own position • radar overlay functions • radar tracking • route monitoring • sea area display • user-created information layers
System and position alarms must include:	• approach to waypoint, critical point , navigation danger and other ships • chart alarms • depth and contour alarms • mode losses • primary failure
Situational awareness	• chart data and scale selection

includes one or more of the following:

- contact detection and management
- integrity of sensors
- safe water and proximity of hazards
- set and drift
- suitability of route

Data includes one or more of the following:

- chart correction information
- electronic navigational chart (ENC) source, date and edition
- vessel voyage details

Unit Mapping Information

This is a new unit. This unit is equivalent to MARH5003A Use an electronic chart display and information system to navigate safely.

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for MARH009 Use an electronic chart display and information system to navigate safely

Modification History

Not applicable.

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
- 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)
- operating ECDIS when interfaced with automatic identification system (AIS) and interpreting AIS data
- operating, interpreting and analysing information:
 - when radar and automatic radar plotting aid (ARPA) is connected to ECDIS
 - obtained from ECDIS
- operating, interpreting and analysing information
- planning a passage on a display using ECDIS
- safely monitoring and adjusting information
- setting up initial display and maintaining display
- 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:

- correcting and updating charts by manual, semi automatic and automatic systems
- dangers of over-reliance
- differences between vector and raster charts
- differences between ECDIS, ECS and raster chart display system (RCDS)
- functions of ECDIS required by performance standards in force
- principles, capability and limitations of ECDIS operations

- requirements for voyage recording
- significance of chart alarms and indicator warnings
- use of ECDIS in emergency situations
- work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices.

Assessment Conditions

Assessors must satisfy National Vocational Education and Training Regulator (NVR)/Australian Quality Training Framework (AQTF) assessor requirements.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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.

Resources for assessment must include access to:

- tools, equipment, machinery, materials and personal protective equipment currently used in industry
- applicable documentation such as legislation, regulations, codes of practice, workplace procedures and operational manuals
- range of relevant exercises, case studies and/or simulations.

Links

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