



Australian Government

MARH005 Use wheelhouse equipment for safe navigation

Release: 2

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Modification History

Release 1. New unit of competency.

Release 2. Additional information re procedures to determine compass accuracy included in Knowledge Evidence.

Application

This unit involves the skills and knowledge required to maintain safe navigation of a commercial vessel through the use of radar and other equipment used for the navigation of a vessel.

This unit applies to people working in the maritime industry on a range of vessels up to 80 metres.

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 wheelhouse navigation equipment

- 1.1 Wheelhouse navigation equipment is initialised and displays are set up and maintained
- 1.2 Operational performance and accuracy of wheelhouse equipment is confirmed and appropriate action is taken when performance is out of limits
- 1.3 Misrepresentation of information is detected and corrected or allowed for

2 Use radar to navigate safely

- 2.1 Radar is operated according to manufacturer instructions to produce data on position and speed of vessel, other vessels and fixed objects
- 2.2 Radar plot is constructed on a radar plotting sheet or automatic plotting devices are initialised
- 2.3 Systematic radar observations of vessels in the vicinity are made where there is a risk of collision
- 2.4 Radar data is used to obtain a position fix for vessel using electronic bearing lines and variable range markers
- 2.5 Radar bearings are corrected for vessel heading and compass error as appropriate
- 2.6 Radar plotting data is analysed to anticipate potential collisions
- 2.7 Analysis is used to make informed command decisions on action needed to avoid collisions

3 Use wheelhouse navigation equipment

- 3.1 Wheelhouse navigation equipment is safely and efficiently used to conduct navigation of the vessel
- 3.2 Position of vessel is monitored during voyage to ensure planned passage is followed
- 3.3 Movement of vessels in the vicinity is monitored to ensure collision situations do not occur
- 3.4 Wheelhouse navigation equipment is maintained according to manufacturer requirements and organisational procedures

4 Maintain navigational records

- 4.1 Navigational data produced by wheelhouse navigation equipment that should be retained to conform with organisational procedures and regulatory requirements is identified
- 4.2 Navigational data is stored electronically or in hard copy as required by organisational procedures and regulatory requirements
- 4.3 Security and access requirements for data are adhered to according to 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.

- Wheelhouse navigation equipment includes one or more of the following:
- AIS
 - alarm devices including off-course and watch alarms
 - automatic pilot
 - azimuth mirrors
 - bottom logs
 - coverage areas
 - differential global positioning system (DGPS)
 - echo sounder
 - electronic charts
 - global positioning system (GPS)
 - hyperbolic systems
 - magnetic and gyro compasses
 - plotters
 - radar
 - satellite technology

Misrepresentation of information includes one or more of the following

- compass errors
- false echoes
- GPS and DGPS errors
- incorrect setting up of electronic chart system (ECS) or electronic chart display and information system (ECDIS)
- incorrect setting up of GPS
- incorrect radar settings for heading marker and range marker
- sea returns

Navigational data includes one or more of the following:

- navigation safety warning
- recording courses steered
- weather and oceanographic reports

Unit Mapping Information

This unit is equivalent to MARH3004A Use wheelhouse equipment for safe navigation.

Links

MAR Maritime Training Package Companion Volume Implementation Guide at: -
http://companion_volumes.vetnet.education.gov.au/Pages/TrainingPackage.aspx?pid=22