Australian Government

MARH010 Use bridge equipment to determine vessel position

Release: 1

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Modification History

Not applicable.

Application

This unit involves the skills and knowledge required to maintain safe navigation of a vessel through the use of radar and other bridge equipment to determine vessel position.

This unit applies to a Watchkeeper Deck, a Master up to 500 gross tonnage (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 bridge equipment**	1.1	Bridge equipment is initialised and displays are set up and maintained
		1.2	Operational performance and accuracy of bridge equipment is confirmed and appropriate action is taken when performance is out of limits
		1.3	Any false echoes and misrepresentations are detected, identified and rejected
2	**Use radar to safely navigate**	2.1	Radar is operated according to manufacturer instructions to produce data on position of vessel, other vessels and fixed objects
		2.2	Radar plot is constructed on radar plotting sheet and

		automatic plotting devices are initialised
	2.3	Systematic radar observations of vessels in the vicinity are made and risk of collision is determined
	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	Adjustments are made to vessel course and speed to maintain safety of navigation
	2.7	Manoeuvring signals are made at appropriate time according to regulations
3 Use bridge equipment to safely navigate	3.1	Bridge equipment is safely and efficiently used to conduct navigation of vessel
	3.2	Position of vessel is monitored during voyage to ensure planned passage is followed
	3.3	Movements of vessels in the vicinity are monitored to ensure collision situations do not occur
	3.4	Adjustments are made to vessel course and speed to maintain safety of navigation
	3.5	Manoeuvring signals are made at appropriate time according to regulations
	3.6	Bridge equipment is maintained according to manufacturer requirements and organisational procedures
4 Maintain navigational records	4.1	Navigational data produced by bridge 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.

Bridge equipment includes one or more of the following:	• automatic identification systems • automatic pilot • automatic radar plotting aid (ARPAs) • azimuth mirrors and other bearing measurement devices • bridge alarm systems • chronometer • electronic chart display and information system (ECDIS) • echo sounder • differential satellite navigation systems • doppler and electro-magnetic speed logs • integrated navigation systems • Loran C navigation systems • magnetic and gyro compasses including rate of turn gyro • navigation light systems • radar • satellite navigation systems • sextant • signalling devices • voyage data recorders
Misrepresentations includes one or more of the following:	• compass errors • false echoes • incorrect radar settings for heading marker and range marker • incorrect setting up of electronic chart system (ECS) or ECDIS

	• incorrect setting up of satellite navigation systems • satellite and differential satellite navigation system errors • sea and rain clutter returns
Navigational data includes one or more of the following:	• navigation safety warning • recording of courses steered • weather and oceanographic reports

Unit Mapping Information

This is a new unit. This unit is equivalent to MARH5004A Use bridge equipment to determine vessel position.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2