Australian Government

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.

Application

This unit involves the skills and knowledge required to manage the planning of a voyage and the navigation of a vessel, determine position and accuracy of resultant of position fix by any means, determine and allow for compass errors, and establish watchkeeping arrangements and procedures.

This unit applies to people working in the maritime industry in the capacity of:

- Master of a commercial vessel Unlimited.

Licensing/Regulatory Information

Legislative and regulatory requirements are applicable to this unit.

- This unit is one of the requirements to obtain Australian Maritime Safety Authority (AMSA) certification as a Master Unlimited and to meet regulatory requirements this unit must be delivered consistent with Marine Orders and with the relevant sections of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW).

- Those regulatory requirements include STCW International Maritime Organization (IMO) model course competencies and areas of knowledge, understanding and proficiency, together with the estimated total hours required for lectures and practical exercises. Teaching staff should note that timings are suggestions only and should be adapted to suit individual groups of trainees depending on their experience, ability, equipment and staff available for training.

Pre-requisite Unit

Not applicable.

Competency Field

H – Navigation

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Oversee development of passage plan	**1.1** Requirements of passage are established
	1.2 Reasons for planned route are supported by facts and statistical data obtained from relevant sources and publications
	1.3 Positions, courses, distances and time calculations are checked for correctness within accepted accuracy standards for navigational equipment
	1.4 Potential navigational hazards are accurately identified
2 Develop and implement watchkeeping arrangements and procedures	**2.1** Watchkeeping arrangements and procedures are developed according to bridge resource management principles, and organisational and regulatory requirements
	2.2 Bridge resource management principles are appropriately applied in establishing watchkeeping arrangements and procedures and in developing an effective bridge working system
	2.3 Communications strategies are developed to link watchkeeping procedures with all aspects of vessel operations
	2.4 Fatigue management strategies are developed according to organisational and regulatory requirements
	2.5 Corrective action procedures are developed and monitored
	2.6 Procedures for reporting, recording and responding to emergencies and non-compliance are established
3 Monitor bridge team in implementing passage	**3.1** Work schedule for bridge team is detailed according to

	plan		bridge resource management principles
		3.2	Risk control measures are evaluated against passage plan
		3.3	Navigation requirements are communicated to bridge team
		3.4	Individuals are fully briefed and responsibilities are coordinated
		3.5	Navigation tasks are carried out according to passage plan
		3.6	Ongoing checks and position determination are conducted according to organisational procedures
		3.7	Non-routine problems related to navigation of vessel are solved
		3.8	Navigational data is signed off according to organisational procedures
		3.9	Work schedule for bridge team is detailed according to bridge resource management principles
4	**Interpret and evaluate information from electronic navigational system**	**4.1**	Data from radar plotting sheet is interpreted and analysed to anticipate potential collisions
		4.2	Data produced by other electronic navigational aids is interpreted and used to assist navigational command decisions, taking into account known limitations and errors associated with each type of aid
		4.3	Information obtained through a single vessel or multiple vessel analysis of radar plots or other electronic navigational data is used to make command decisions on action needed to avoid collisions
		4.4	Radar data is used to obtain position fix for vessel using electronic bearing lines and variable range markers
5	**Navigate in complex situations**	**5.1**	Measurements and observations of sea and weather conditions are used to determine vessel speed and direction in complex situations
		5.2	Information from bridge equipment is interpreted to identify navigational hazards and to fix vessel position

	5.3	Nautical publications on tides and currents are used to calculate tidal conditions
	5.4	Alterations to vessel course or speed are made to meet prevailing circumstances and changing conditions
	5.5	Navigational manoeuvres are conducted within safe operational limits of vessel
	5.6	Details of passage are recorded in vessel log according to regulations
	5.7	Variations to planned route are documented prior to archiving, on completion of voyage
6 Manage emergencies	**6.1**	Bridge team is taken charge of when called to bridge in response to an emergency
	6.2	Safety management system (SMS) procedures are implemented when taking over bridge watch from officer of the watch
	6.3	Appropriate action is taken to initiate search and rescue (SAR) procedures on receipt of distress signal
	6.4	Advice is provided to watchkeeper regarding response to emergency situations
7 Maintain navigational equipment	**7.1**	Navigational charts, nautical publications and related documentation are stored and maintained according to organisational procedures
	7.2	Inventory of navigational charts, nautical publications and related documentation is established and kept according to organisational procedures
	7.3	Navigational charts, nautical publications and related documentation are ordered and updated from relevant sources to ensure available data needed for voyage planning is current
	7.4	Performance checks and tests of navigation position fixing instruments and systems are carried out according to organisational procedures and manufacturer instructions
8 Prepare reports and documentation relevant to passage	**8.1**	Passage information is recorded and reported in required format, style, structure and timeframe

8.2 All information is recorded and reported according to legislative requirements

8.3 Technology is used to store and retrieve information

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces and is equivalent to MARH012 Manage the navigation of a vessel 500 gross tonnage or more.

Links

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