



Australian Government

MARB037 Maintain and repair bridge navigation equipment and ship communication systems

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 maintain and repair bridge navigation equipment and ship external communication systems.

It includes reviewing, maintaining and managing bridge navigation and communication equipment systems.

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

- Electro-Technical Officer (STCW Electro-Technical Officer Unlimited)
- Engineer Class 1 (STCW Chief Engineer Unlimited)
- Engineer Class 2 (STCW Second Engineer Unlimited).

Bridge navigation equipment includes:

- automatic identification system (AIS)
- echosounder systems
- electronic chart display and information system (ECDIS)
- global navigation satellite systems (GNSS)
- inertial navigation system
- marine autopilots
- navigation lights and search lights
- radar
- ship compass equipment
- ship horn and sound signal system
- speed logs
- voyage data recorders
- wind trackers.

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 an Electro-Technical Officer (STCW Electro-Technical Officer Unlimited), Engineer Class 1 (STCW Chief Engineer Unlimited) or Engineer Class 2 (STCW Second Engineer 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

B – Equipment Checking and Maintenance

Unit Sector

Electrotechnology

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. Review ship bridge navigation equipment and communication systems	1.1 Bridge navigation equipment and ship communication systems are interpreted from ships technical drawings and/or specifications 1.2 Bridge navigation equipment and communication systems are identified, visually inspected and tested in accordance with shipboard procedures 1.3 Hazards are identified, risks assessed and control measures implemented 1.4 Measuring and calibrating instruments are used in accordance with manufacturer specifications 1.5 Operations are carried out in accordance with operational manuals, rules and procedures to ensure safety of operations

2. Maintain bridge navigation equipment

- 2.1 Bridge navigation equipment is visually inspected and tested in accordance with maintenance specification and plan
- 2.2 Bridge navigation equipment and associated plant and safety systems are isolated and electrical hazards identified in accordance with safe working practices
- 2.3 Bridge navigation equipment malfunctions detected during equipment maintenance are documented in service records and effect on associated plant and safety systems specified accurately
- 2.4 Bridge navigation equipment faults are rectified by competent person in accordance with shipboard procedures and legislative requirements
- 2.5 Bridge navigation equipment is dismantled and re-assembled in accordance with manufacturer safety guidelines and shipboard instructions
- 2.6 Bridge navigation equipment rectification plans are justified in service/maintenance records
- 2.7 Maintenance work is checked to verify that it conforms with technical specifications
- 2.8 Bridge navigation equipment restoration actions are taken in a timely manner by the method most suitable and appropriate to the ship prevailing circumstances and conditions

3. Maintain ship communication systems

- 3.1 Ship communication system is visually inspected and tested in accordance with maintenance specification and plan
- 3.2 Working in flammable areas hazards are identified, risks assessed and control measures implemented in accordance with shipboard procedures
- 3.3 Communication systems restoration actions are undertaken by the method most suitable and appropriate to the ship prevailing circumstances and conditions
- 3.4 Faults are rectified in accordance with shipboard procedures and legislative requirements
- 3.5 Clear and concise communication is used when testing internal communication systems

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| 4. Clean up and complete documentation | 4.1 Work area is cleared and cleaned |
| | 4.2 Work area is made safe and all equipment and plant returned to service in accordance with shipboard procedures and legislative requirements |
| | 4.3 Materials are disposed of or recycled in accordance with legislative and workplace requirements |
| | 4.4 Tools and equipment are cleaned, checked and stored in accordance with workplace procedures |
| | 4.5 Maintenance reports are completed in accordance with procedures |

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 is a new unit. No equivalent unit.

Links

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