



Australian Government

MARB032 Undertake basic maintenance of electrical systems

Release: 1

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Modification History

Release 1. New unit of competency. Licensing/regulatory information has been incorporated in accordance with Regulatory requirements. Assessment Requirements have been strengthened in accordance with Regulatory requirements.

Application

This unit involves the skills and knowledge required to complete basic maintenance of electrical systems.

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

- chief engineer on vessels with an inboard engine with propulsion power <1500 kW within the exclusive economic zone (EEZ) or
- second engineer on vessels with an inboard engine with propulsion power <3000 kW within the EEZ or
- chief or second engineer on vessels with an outboard engine with unlimited propulsion power within the EEZ or
- assistant under direct supervision of a chief engineer; and
- worker in the engine room on vessels <80 m long with propulsion power <3000 kW.

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 Marine Engine Driver Grade 2 NC and a Marine Engine Driver Grade 1 NC as defined in the National Standard for Commercial Vessels (NSCV) Part D. The AMSA mandated practical assessment (AMPA) is a requirement for AMSA certification as a Marine Engine Driver Grade 2 NC. Note: Relevant state or territory electrical licensing requirements apply to persons carrying out installation, maintenance and or repair of electrical circuits or systems that are 50 V alternating current (AC) or above, or 120 V direct current (DC) or above.

The Australian Maritime Safety Authority (AMSA) mandated practical assessment (AMPA) will cover a range, but not all, of the requirements identified in the Performance Evidence and Knowledge Evidence. The AMPA shall be undertaken in accordance with its instructions.

Assessors of AMPA must hold as a minimum:

- a current certificate of competency issued under Marine Safety (Domestic Commercial Vessel) National Law Act 2012 at the same level as the qualification being assessed with at least 12 months' relevant sea service, or
- a relevant seafarer certificate, as engineer, issued under the Navigation Act 2012.

Pre-requisite Unit

Not Applicable

Competency Field

B - Equipment Checking and Maintenance

Unit Sector

Not Applicable

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan maintenance activities

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Maintenance plan is accessed to determine electrical system maintenance requirements
- 1.2** Inspections are conducted and additional non-routine maintenance requirements are determined
- 1.3** System specifications and diagrams for electrical systems are obtained
- 1.4** Tasks are planned and sequenced in conjunction with others involved in or affected by maintenance work
- 1.5** Consumables and equipment are selected and checked for serviceability

2 Complete preventative maintenance

- 2.1** Electrical system is safely isolated according to regulatory and work health and safety (WHS)/occupational health and safety (OHS) requirements
- 2.2** WHS/OHS risk control measures and procedures for carrying out work are followed
- 2.3** Preventative maintenance is carried out in compliance with system specifications
- 2.4** Methods for dealing with unexpected situations are selected on the basis of safety and specified work

	outcomes
	2.5 Work is carried out efficiently without waste of materials and damage to equipment and machinery or other services
	2.6 Maintenance work is checked to verify that it conforms with technical specifications
3 Complete breakdown maintenance	3.1 Nature of breakdown is confirmed using maintenance records and or log book entries related to reported breakdown
	3.2 Restrictions are applied to operations, as necessary, and Master is notified
	3.3 Limits of repair work that can be carried out are established according to relevant state or territory electrical licensing requirements
	3.4 System is isolated
	3.5 Repair work is carried out according to system specifications
	3.6 Master is notified of completion of repair work and details are documented
4 Clean up and complete documentation	4.1 Work area is cleared and cleaned
	4.2 Materials are disposed of or recycled according to legislative and workplace requirements
	4.3 Tools and equipment are cleaned, checked and stored according to workplace procedures
	4.4 Electrical system and equipment are put back into service and monitored for correct operation according to organisational practices
	4.5 Maintenance report is completed according to workplace 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 unit replaces and is equivalent to MARB007 Undertake basic maintenance of electrical systems.

Links

Companion Volume implementation guides are found in VETNet -

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