



**Australian Government**

# **Assessment Requirements for MARB032 Undertake basic maintenance of electrical systems**

**Release: 2**

# Assessment Requirements for MARB032 Undertake basic maintenance of electrical systems

## Modification History

**Release 2.** This is the second release of this unit of competency in the MAR Maritime Training Package.

- Minor statement changes in unit Application
- Minor statement changes in Assessment Conditions.

**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.

## Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying safety requirements throughout the work sequence, including the use of personal protective equipment (PPE)
- carrying out maintenance tasks, including:
  - battery maintenance
  - testing:
    - alarm systems
    - emergency generator
    - power and lighting systems
- carrying out simple maintenance of electrical systems in the event of:
  - blown fuses or open circuit breakers
  - earthing
  - failure of electricity generating systems
  - motor brake failure to release
  - motor failure
  - shorting
- implementing safe and environmentally responsible work practices
- performing isolation, lock out and tag out procedures
- planning maintenance activities according to technical, legislative, safety and procedural specifications.

## Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of

the requirements of the elements and performance criteria and include knowledge of:

- battery:
  - charging systems
  - maintenance
  - operation
  - types and associated hazards
- connection to shore power
- earth indicating devices
- electrical distribution systems
- isolation of electrical circuits
- main faults that can occur in:
  - alternating current (AC) electrical systems
  - direct current (DC) electrical systems
- maintenance requirements for:
  - alarm systems
  - emergency electrical supply
  - emergency generators
  - generators
  - motor starting circuits
  - power and lighting
  - shore supply
  - steering gear circuits
  - switchboards
- procedure for connecting batteries in series and parallel
- single and three-phase AC power
- starter motors, alternators and associated equipment
- switchboard and protection devices
- types of protection devices
- use of multi-meter to test voltage and continuity
- uses of fuses and circuit breakers
- work health and safety (WHS)/occupational health and safety (OHS) requirements.

## Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy

requirements of the work being performed and the needs of the candidate.

Practical assessment must occur in a workplace, or realistic simulated workplace, under the normal range of workplace conditions.

Simulations and scenarios may be used where situations cannot be provided in the workplace or may occur only rarely, in particular for situations relating to emergency procedures and adverse weather conditions where assessment would be unsafe, impractical or may lead to environmental damage.

Resources for assessment must include access to:

- applicable documentation, such as legislation, regulations, codes of practice, safety management systems (SMS), workplace procedures and operational manuals
- a commercial vessel with inboard diesel propulsion power of greater than or equal to 150 kW or appropriate engine, propulsion plant, and auxiliary equipment with electrical systems ashore
- tools, equipment, machinery, materials and relevant PPE currently used in industry.

## Links

Companion Volume Implementation Guides are found in VETNet -

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