



Australian Government

MARC035 Operate and maintain extra low and low voltage electrical systems and equipment

Release: 2

MARC035 Operate and maintain extra low and low voltage electrical systems and equipment

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 changes and removed duplication in Performance Evidence
- Minor changes and removed duplication in Knowledge Evidence
- 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.

Application

This unit involves the skills and knowledge required to operate, test and maintain extra low and low voltage electrical systems and equipment.

Note: Extra low voltage (ELV) systems are those not exceeding 50 Volts alternating current (AC) or 120 Volts direct current (DC). Low voltage systems are those not exceeding 1,000 Volts AC or 1,500 Volts DC.

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

- Marine Engine Driver Grade 1 Near Coastal
- Marine Engine Driver Grade 2 Near Coastal
- Marine Engine Driver Grade 3 Near Coastal

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 3 NC, Marine Engine Driver Grade 2 NC and a Marine Engine Driver Grade 1 NC as specified in Marine Order 505.

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 AC or above, or 120 V DC or above.

Seafarers seeking certification should check with AMSA.

Pre-requisite Unit

Not Applicable.

Competency Field

C - Equipment Operations

Unit Sector

Not Applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Operate electrical systems and equipment

PERFORMANCE CRITERIA

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

- 1.1** Routine pre-operational checks are carried out on electrical systems and equipment according to manufacturer specifications
- 1.2** Systems and equipment are operated according to manufacturer specifications
- 1.3** Faults are identified and appropriate action is taken to rectify them
- 1.4** Faults are reported and logged promptly and accurately to appropriate personnel

2 Carry out routine maintenance on electrical systems and equipment

- 2.1** Tasks are planned and sequenced in conjunction with others involved in or affected by maintenance work
- 2.2** Tools and equipment are selected and checked for serviceability
- 2.3** Components to be maintained are isolated
- 2.4** Systems are tested and test results are compared with manufacturer specifications
- 2.5** Maintenance tasks are carried out to specifications
- 2.6** Unserviceable components are tagged according to organisational procedures and appropriate personnel are notified

3 Isolate faulty components for repair

- 3.1** Faulty items or components are isolated according to workplace procedures

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|--|------------|---|
| | 3.2 | Serviceable items are fitted according to manufacturer specifications |
| | 3.3 | Operational checks are carried out on equipment or system to ensure compliance with manufacturer specifications |
| 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 | 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 MARC003 Operate and maintain extra low and low voltage electrical systems and equipment.

Links

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