



Australian Government

UEEIC0051 Evaluate motor drive systems and diagnose faults

Release: 1

UEEIC0051 Evaluate motor drive systems and diagnose faults

Modification History

Release 1. This is the first release of this unit of competency in the Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to diagnose and rectify faults in systems controlling starting, speed, torque, power output, efficient running and braking for motor drive systems.

It includes working safely; interpreting technical data; applying knowledge of motor operating parameters to logical fault-finding techniques; implementing fault rectification, safety and functional inspection; testing; and reporting work activities and outcomes.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

UEEEL0019 - Solve problems in direct current (d.c.) machines

UEEEL0077 - Evaluate and report on the performance of LV machines

Competency Field

Instrumentation & Control

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to evaluate motor drive systems

PERFORMANCE CRITERIA

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

1.1 Work, health and safety (WHS) / occupational health and safety (OHS) risk control measures are identified and applied

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| | 1.2 | Scope of work, including motor drive systems to be evaluated is determined from relevant documentation and in consultation with relevant people |
| | 1.3 | Tools, equipment and testing devices needed to diagnose faults are obtained and checked for correct operation and safety |
| 2 Evaluate motor drive systems and diagnose faults | 2.1 | Circuits/machines/plant are inspected, checked and isolated, as required, in accordance with WHS/OHS requirements and workplace procedures |
| | 2.2 | Logical diagnostic methods/techniques are applied to evaluate motor drive operation and diagnose motor control system faults employing measurements and estimations of system operating parameters referenced to system operational requirements |
| | 2.3 | Fault scenarios are tested and confirmed as being the source of system problems in accordance with workplace procedures |
| | 2.4 | Causes of the faults are identified and recommendations to rectify the fault are documented |
| | 2.5 | System is inspected and tested to verify that the system operates as intended and to specified requirements |
| | 2.6 | Evaluation and diagnosis activities are carried out efficiently, without unnecessary waste of materials or damage to apparatus, the surrounding environment or services, using sustainable energy practices |
| 3 Complete and report fault diagnosis and rectification activities | 3.1 | Worksite is made safe in accordance with workplace safety procedures |
| | 3.2 | Evaluation and rectification activities are documented |
| | 3.3 | Relevant people are notified of work completion. |

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.

Non-essential conditions may be found in the Electrotechnology Training Package Companion Volume Implementation Guide.

Evaluating motor drive systems must include: • both a.c. and d.c. motor control systems

Unit Mapping Information

This is a new unit.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>