



Australian Government

Assessment Requirements for UEEEC0028 Fault find and repair complex power supplies

Release: 1

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Modification History

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

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and include:

- applying methodical fault-finding techniques
- applying relevant risk identification, assessment, reporting and control requirements
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- applying sustainable energy principles and practices
- coordinating work with relevant person/s
- dealing effectively with unplanned events
- determining live testing/measurement requirements
- determining scope of work
- efficiently finding faults
- finding and repairing faults in complex power supplies
- identifying and accessing materials, tools, apparatus and testing devices
- isolating circuits/machines/system
- providing justification for the repairs
- replacing components without damage
- selecting relevant test equipment and test methods
- making and analysing measurements to verify circuit operation.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- complex power supplies fault finding and repair
- off-line switching regulators
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes

- relevant standards, codes and regulations
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- relevant principles of switching regulation
- series regulation
- series regulator employing closed loop control
- switching regulation - closed loop control of output
- block and schematic diagrams for typical power supply circuits
- heatsink selection considerations
- circuit protection methods - crowbar and current-limiting
- verification of circuit operation
- fault-finding techniques
- electromagnetic radiation (EMR) considerations with switch mode supplies
- inductance and transformer theory
- diode and semiconductor basics
- rectification and filtering.

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 Organisations current at the time of assessment.

Assessment must occur in suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in suitable simulated workplace operational situations that replicate workplace conditions.

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.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- resources that reflect current industry practices in relation to finding and repairing faults in complex power supplies
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet - -

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