



Australian Government

UEEDV0013 Solve problems in voice and data communications circuits

Release: 1

UEEDV0013 Solve problems in voice and data communications circuits

Modification History

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

Application

This unit involves the skills and knowledge required to solve problems in voice and data communications circuits.

It includes working safely; applying problem-solving procedures; using basic voltage, current and resistance measuring devices; and providing known solutions to predictable communication circuit problems.

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

Pre-requisite Unit

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

Competency Field

Data and Voice

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to work on voice and data communications circuits

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) requirements and workplace procedures for a given work area are identified, obtained and applied

- | | | |
|----------|--|---|
| | 1.2 | WHS/OHS risk control work preparation measures and workplace procedures are followed |
| | 1.3 | Scope of circuit/s problem is obtained from documentation and/or from work supervisor to determine the work to be undertaken |
| | 1.4 | Advice is sought from the work supervisor to ensure work is coordinated with others |
| | 1.5 | Sources of materials required for work are determined in accordance with workplace procedures |
| | 1.6 | Tools, equipment and testing devices required to carry out work are obtained and checked for correct operation and safety |
| 2 | Solve identified problems in voice and data communications circuits | |
| | 2.1 | WHS/OHS risk control work measures and workplace procedures are followed |
| | 2.2 | Need to test and measure live work is determined in accordance with WHS/OHS requirements and workplace procedures |
| | 2.3 | Circuits are checked and isolated in accordance with WHS/OHS requirements and workplace procedures |
| | 2.4 | Measured and calculated value routines are used to solve circuit problems for single path, single source circuits |
| | 2.5 | Problems are solved without damage to apparatus, circuits, the surrounding environment and/or services using sustainable energy practices |
| 3 | Complete work and document problem solving activities | |
| | 3.1 | WHS/OHS work completion risk control measures and workplace procedures are followed |
| | 3.2 | Worksite is cleaned and made safe in accordance with workplace procedures |
| | 3.3 | Justification for solutions used to solve circuit problems is documented |
| | 3.4 | Work completion is documented and relevant person/s notified in accordance with 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.

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

Unit Mapping Information

This unit replaces and is equivalent to UEENEEF106A Solve problems in voice and data communications circuits.

Links

Companion Volume implementation guides are found in VETNet - -

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

Assessment Requirements for UEEDV0013 Solve problems in voice and data communications circuits

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 and performance criteria on at least two separate occasions and include:

- altering an existing circuit to comply with specified operating parameters
- applying relevant work health and safety (WHS)/occupational health and safety (WHS/OHS) requirements, including using risk control measures
- checking and isolating circuits
- completing documentation of justification for solution
- completing work and documenting problem-solving activities
- determining sources of materials required for work
- determining the operating parameters of an existing circuit
- measuring and calculating value routines to solve circuit problems
- obtaining and checking tools, equipment and testing devices required to carry out work
- obtaining the scope of circuit/s problem from documentation and/or from work supervisor
- preparing to work on voice and data communications circuits
- solving identified problems in voice and data communications circuits
- solving problems without damage to apparatus, circuits, the surrounding environment and/or services using sustainable energy practices
- testing and measuring live work.

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:

- alternating current (a.c.) principles
- capacitance
- circuit parameter relationships
- direct current (d.c.) resistive circuits
- effects of electrical current
- electrical circuits
- electromotive force (EMF) sources

- isolation procedures
- magnetism and electromagnetic induction
- measurement instruments (voltage, current and resistance)
- problem-solving techniques
- relevant manufacturer specifications and operating instructions
- relevant measurements and calculations values
- relevant job safety assessments or risk mitigation processes
- relevant tools, equipment and testing devices
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- sustainable energy principles
- testing and measuring of live work.

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 simulated suitable 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 simulations
- relevant and appropriate materials, tools, facilities and equipment used in industry
- resources that reflect current industry practices in relation to solve problems in voice and data communications circuits
- 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>