



Australian Government

Department of Education, Employment and Workplace Relations

UETDRRF11A Testing of connections to low voltage electricity networks

Release: 1

UETTDRRF11A Testing of connections to low voltage electricity networks

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This Competency Standard Unit covers the performance of testing of connections to low voltage electricity networks according to the relevant AS 4741. It specifies the mandatory requirements for testing when connecting and/or reconnecting a customer's installation to an electricity supply network

It encompasses the minimum principles and tests required to confirm that the low voltage supply connections are correct

Application of the Unit

Application of the Unit 2)

This competency standard unit shall be selected as part of an endorsed skill set for the purposes of refresher training and/or to meet regulatory and/or network requirements.

Delivery and assessment of this unit should be undertaken within regard to the requirements of License to Practice (1.2 above), Prerequisite Competencies and Literacy and Numeracy skills (2 above) and the recommendations for concurrent assessment and relationship with other units (9.5 below).

Practice in the workplace and during training is also subject to regulations directly related to occupational health and safety and where applicable contracts of training such as apprenticeships.

Note:

1. Compliance with permits may be required in various jurisdictions and typically relates to the operation of

plant, machinery and equipment such as elevating work platforms, powder operated fixing tools, power operated tools, vehicles, road signage and traffic control and lifting equipment. Permits may also be required for some work environments such as confined spaces, working aloft, near live electrical apparatus and site rehabilitation.

2. Compliance may be required in various jurisdictions relating to currency in First Aid, confined space, lifting, risk safety measures etc

Licensing/Regulatory Information

License to practice

3)

The skills and knowledge described in this unit may require a licence/registration to practice in the work place subject to regulations for undertaking of electrical work. Practice in workplace and during training is also subject to regulations directly related to Occupational Health and Safety, electricity/telecommunications/gas/water industry safety and compliance, industrial relations, environmental protection, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

ESI workers approved by the network operator to test and connect and/or reconnect customers installations to an electricity supply network are required to maintain competency in this unit

Pre-Requisites

Prerequisite Unit(s)

4)

Competencies

4.1)

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

Where pre-requisite pathways have been identified. All competencies in the Common Unit Group must be have been completed plus all the competencies in one (1) of the

Prerequisite Unit(s) 4)

identified Pathway Unit Group(s):

There are no prerequisite competencies to this unit.

Literacy and numeracy skills 4.2)

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 “Literacy and Numeracy”

Reading 3 Writing 3 Numeracy 3

Employability Skills Information**Employability Skills 5)**

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria**ELEMENT****PERFORMANCE CRITERIA**

- | | |
|---|---|
| 1 Prepare to perform test procedures | 1.1 Instruction in hazards and risk control measures for specific work functions and work areas are identified and obtained. (this will include the risk assessment and control measures taken by the individual performing the tests) |
| | 1.2 Tools and equipment needed for testing are |

ELEMENT	PERFORMANCE CRITERIA
	checked for inspection date, safety, and functionality.
2 Carry out test procedures	2.1 Workplace procedures and work instructions for controlling risk are followed.
	2.2 Conduct test procedures in accordance with AS 4741.
	2.3 Enterprise procedures for corrective actions are followed.
	2.4 Document test results in accordance with established enterprise procedures.
3 Complete the test procedures	3.1 Processes for reporting to authorised personnel are confirmed in accordance with established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) Essential Knowledge and Associated Skills (EKAS): This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of AS 4741

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-TRF11A Low voltage electricity networks connections testing

Evidence shall show an understanding of low voltage electricity networks connections testing to an extent indicated by the following aspects:

T1 Low voltage testing of network connections encompassing:

- Selection and inspection of test equipment relevant for the testing procedures
- Acceptable neutral voltage criteria
- Polarity testing
- Neutral integrity testing
- Phase rotation testing
- Phasing confirmation
- Corrective actions to network operator's procedures
- Recording and reporting results to network operator's procedures

T2 Skills required to test low voltage network connection encompassing:

- Preparation and use of test equipment
- Preparation and correct use of PPE
- Testing of single phase and multi phase connections to network operator's procedures
- Documenting test results to network operator's procedures

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the competency standard unit and must be read in conjunction with the Performance Criteria and the range statement of the competency standard unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all component parts of this unit and, performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment 9.1)

In accordance with the National Refresher Training Recognition Protocol for the Electricity Supply Industry, this unit is identified as a Refresher Training unit and is only available for use by industry to meet industry protocols and regulatory requirements.

Industry has defined Refresher Training as:

“A competency confirmation event which may include training, the purpose of which is to compensate for or prevent deterioration in a previously achieved standard of performance”

Under the protocol and the applicable State or Territory legislative and regulatory requirements, Electricity Supply Industry employees are required to maintain currency in this Unit for authorisation/approval to work on ESI Networks.

Industry accepts that opportunities to practice emergency procedures are generally restricted to simulated exercises in a controlled environment during competency confirmation programs.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be ‘rich’ in nature so as to minimise error in judgment.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments.

Critical aspects of evidence required to demonstrate competency in this unit 9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated at each competency confirmation event.

- In accordance with State and Territory regulations and the “Assessment Guidelines – UET09”. Evidence shall also comprise:
 - A performance demonstrated within the timeframes typically expected of the procedure. In particular the assessment of this unit shall confirm that a candidate is able to:
 - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range; and
 - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner’s performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment; and
- Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures; and
- Demonstrated performance across a representative range of contexts from the prescribed items below:

Range of tools/equipment/materials/procedures/workplaces/other variables		
Group No	The minimum number of items on which skill is to be demonstrated	Item List
A	Perform, to the	Preparation and use of

	satisfaction of the assessor	test equipment
B	Perform, to the satisfaction of the assessor	Preparation and correct use of PPE
C	Perform, to the satisfaction of the assessor	Testing of single phase and multi phase connections to network operator's procedures
D	Perform, to the satisfaction of the assessor	Document test results to network operator's procedures

Context of and specific resources for assessment 9.3)

This unit should be assessed as it relates to organisational testing procedures, information and resources typical of the workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to safely undertake connection and test procedures in the workplace.

In addition to the resources listed above, in context of any specific resources for assessment, evidence should show demonstrated competency working in a realistic environment and a variety of conditions.

Method of assessment 9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 "Assessment Guidelines".

Note:

Competent performance with inherent safe working practices is

expected in the Industry to which this Competency Standard Unit applies. This requires that the specified essential knowledge and associated skills and their application are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

**Concurrent
assessment and
relationship with
other units** **9.5)**

For optimisation of training and assessment effort, competence in this unit is not recommended to be assessed concurrently with any other unit.

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to performing test procedures described in AS 4741.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section 1 of this volume and form an integral part of the Range Statement of this unit:

- Appropriate and relevant persons
- Appropriate authorities
- Assessing risk
- Assessment
- Authorisation
- Emergency
- Established procedures
- Fall prevention
- Hazards
- Identifying hazards
- Inspect
- Legislation
- Notification
- OHS practices
- OHS issues
- Personnel
- Requirements
- Calibration of test equipment

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Entry Level – Refresher Training Units.

