



Australian Government

UEENEEG162A Set up and place LV electrical apparatus and associated circuits into service

Release 2

UEENEEG162A Set up and place LV electrical apparatus and associated circuits into service

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit covers adjusting and setting up electrical apparatus before placing and checking that they operate as intended. It encompasses working safely and to standards, following specified set up procedures, ensuring safety devices are correctly set, evaluating apparatus and circuit operation against specified parameters and completing necessary documentation.

Application of the Unit

Application of the Unit 2)

This unit is intended as an additional competency to relevant competencies previously acquired. It is suitable for employment-based programs under an approved contract of training at the aligned AQF 4 level or higher.

Licensing/Regulatory Information

License to practice 3)

The skills and knowledge described in this unit require a license 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 safe and contracts of training such as new apprenticeships.

License to practice

3)

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 measure and the like

Pre-Requisites

Prerequisite Unit(s)

4)

Competencies

4.1)

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

UEENEEG105A	Verify compliance and functionality of low voltage general electrical installations
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UEENEEE102A	Fabricate, dismantle, assemble of utilities components
UEENEEE104A	Solve problems in d.c circuits
UEENEEE105A	Fix and secure electrotechnology equipment
UEENEEE107A	Use drawings, diagrams, schedules, standards, codes and specifications
UEENEEE137A	Document and apply measures to control OHS risks associated with

Prerequisite Unit(s)

4)

electrotechnology work

UEENEEG006A	Solve problems in single and three phase low voltage machines
UEENEEG033A	Solve problems in single and three phase electrical apparatus and circuits
UEENEEG063A	Arrange circuits, control and protection for general electrical installations
UEENEEG101A	Solve problems in electromagnetic devices and related circuits
UEENEEG102A	Solve problems in low voltage a.c. circuit
UEENEEG103A	Install low voltage wiring and accessories
UEENEEG104A	Install appliances, switchgear and associated accessories for low voltage electrical installations
UEENEEG106A	Terminate cables, cords and accessories for low voltage circuits
UEENEEG107A	Select wiring systems and cables for low voltage general electrical installations
UEENEEG108A	Trouble-shoot and repair faults in low voltage electrical apparatus and circuits
UEENEEG109A	Develop and connect electrical control circuits

Literacy and numeracy skills

4.2)

Participants are best equipped to achieve competency in 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 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills 5)

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

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 set up electrical apparatus and associated controls	1.1	OHS procedures for a given work area are identified, obtained and understood.
	1.2	Established OHS risk control measures and procedures in preparation for the work are followed.
	1.3	Safety hazards which have not previously been identified are documented and risk control measures devised and implemented in consultation with appropriate person(s).
	1.4	Setting up work is appropriately sequenced in accordance with job schedule
	1.5	Appropriate personnel are consulted to ensure the work is coordinated effectively with others involved on the work site

ELEMENT	PERFORMANCE CRITERIA
2 Set up electrical apparatus and associated controls	1.6 The location of electrical apparatus and controls is determined from site inspection and/or job specifications and diagrams
	1.7 Control setting and operating parameters are determined from job specifications and requirements.
	1.8 Tools, equipment and testing devices needed to commission the system are obtained in accordance with established procedures and checked for correct operation and safety
	1.9 Pre set up checks are undertaken to ensure all components are in place and secure.
	1.10 The need to test or measure a live and operating system is determined in strict accordance with OHS requirements and when necessary conducted within established safety procedures
	2.1 OHS risk control measures and procedures for carrying out the work are followed.
	2.2 The need to test or measure live is determined in strict accordance with OHS requirements and when necessary conducted within established safety procedures.
	2.3 Circuits/machines/plant are checked as being isolated where necessary in strict accordance OHS requirements and procedures.
	2.4 Electrical apparatus and associated controls are adjusted to their required settings.
	2.5 Testing/measuring devices are used to observe the operation of electrical apparatus and fine adjustments of controls are made as necessary.
	2.6 Methods for dealing with unexpected situations are selected on the basis of safety and specified work outcomes.
	2.7 Setting up is conducted efficiently without unnecessary waste of materials or damage to apparatus and the surrounding environment or

ELEMENT

PERFORMANCE CRITERIA

			services and using sustainable energy practices.
3	Document operational settings of electrical apparatus and associated circuits.	3.1	OHS work completion risk control measures and procedures are followed.
		3.2	Work site is cleaned and made safe in accordance with established procedures.
		3.3	Results of setting up are documented including final operating parameters and an appropriate person or persons notified in accordance with established procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and setting up and placing electrical apparatus and associated circuits into service.

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

KS01-EG162A

Commissioning processes and procedures

Evidence shall show an understanding of setting up and placing electrical apparatus and associated circuits into service to an extent indicated by the following:

T1 Commissioning processes and procedures encompassing:

- Purpose of commissioning
- Commissioning planning and documentation
- Procedures for configuring, calibrating and tuning systems during commissioning systems encompassing:
- Procedures for validating system performs to specification
- Procedures followed to commission instrument systems
- Purpose and importance of documentation

Evidence Guide

EVIDENCE GUIDE

9) The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment 9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accordance with industry and regulatory policy.

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.

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

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

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 on at least two occasions in accordance with the 'Assessment Guidelines – UEE11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows 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 statement
 - Apply sustainable energy principles and practices as specified in the performance criteria and range statement
 - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
 - Demonstrate an appropriate level of skills enabling employment
 - Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
 - Set up and place electrical apparatus and associated circuits into service as described as described in 8) and including:
 - A Selecting appropriate testing/measuring devices.
 - B Making initial adjustments of apparatus and controls correctly.
 - C Finely adjusting apparatus and controls based of measured observations.

- D Documenting final operating parameters accurately.
- E Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items.

Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

OHS policy and work procedures and instructions.

Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this unit.

These should be part of the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to setting up and placing electrical apparatus and associated circuits into service.

Method of assessment **9.4)**

This 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 unit applies. This requires assessment 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 skills described in this unit.

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

There are no concurrent assessment recommendations for this unit.

Range Statement

RANGE STATEMENT

10) This relates to the 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 unit shall be demonstrated in relation to commissioning electrical apparatus and associated controls. Types of electrical apparatus and controls are motor switching and control, relevant parts of general electrical installations, process plants or production plant.

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Electrical