



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **UEENEEP026A Conduct in-service safety testing of electrical cord connected equipment and cord assemblies**

Release: 1

## **UEENEEP026A Conduct in-service safety testing of electrical cord connected equipment and cord assemblies**

### **Modification History**

Not applicable.

### **Unit Descriptor**

#### **Unit Descriptor**

#### **1) Scope:**

##### **1.1) Descriptor**

This unit covers safety testing of electrical cord connected equipment and cord assemblies. It encompasses working safely, using portable apparatus tester, identifying faults, applying tagging, arranging for repair of faulty equipment and complete testing documentation.

### **Application of the Unit**

#### **Application of the Unit 2)**

This unit is intended to augment previously acquired competencies. It is suitable for employment-based programs under an approved contract of training.

### **Licensing/Regulatory Information**

#### **License to practice**

#### **3)**

The skills and knowledge described in this unit may require a license to practice in the workplace. However, practice in this unit is subject to regulations directly related to occupational health and safety, general electrical 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

**License to practice**

**3)**

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 and risk safety measures.

**Pre-Requisites**

**Prerequisite Unit(s)**

**4)**

**Competencies**

**4.1)**

UEENEEE1 01A Apply Occupational Health and Safety regulations, codes and practices in the workplace

**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  
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

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
1 Prepare to test cord connected apparatus and cord assemblies	1.1 OHS procedures for a given work area are identified, obtained and understood.
	1.2 OHS risk control work preparation measures and procedures are followed.
	1.3 Advice is sought from an appropriate person to minimise disruption to the work place.
	1.4 Cord connected apparatus and cord assemblies to be tested are obtained.
	1.5 Portable apparatus testing device is checked for correct operation and safety.
2 Test cord connected apparatus and cord assemblies	2.1 OHS risk control work measures and procedures are followed.
	2.2 Measures are followed to ensure that cord connected apparatus and cord assemblies to be tested are not connected to the electrical supply.
	2.3 Knowledge of electrical safety requirements and parameters are applied to safety testing to ensure correct interpretation of test results.
	2.4 Visual checks of the cord connected apparatus and cord assemblies are carried out in accordance with established procedures to detect any abnormal or obvious damage or fault.
	2.5 Approval is obtained in accordance with established procedures from appropriate personnel, before any contingencies are

**ELEMENT**

**PERFORMANCE CRITERIA**

		implemented.
	2.6	Established PAT routines are followed to test cord connected apparatus and cord assemblies.
	2.7	Unsafe cord connected apparatus and cord assemblies are identified from test results
	2.8	Testing is undertaken effectively with minimum waste of energy and damage to apparatus.
3	Tag tested cord connected apparatus and cord assemblies and document testing activities	
	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	Cord connected apparatus and cord assemblies are tagged according to their safety status.
	3.4	Arrangements are made for unsafe cord connected apparatus and cord assemblies to be repaired by a recognised competent person.
	3.5	Safety testing activities are documented in accordance with requirements and established routines procedures.

## **Required Skills and Knowledge**

### **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 conduct in-service safety testing of electrical cord connected equipment and cord assemblies.

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

### **KS01-EP026A Testing and Tagging Portable and Cord Connected Electrical Apparatus**

Evidence shall show an understanding of testing and tagging portable and cord connected electrical apparatus to an extent indicated by the following aspects:

T1 Australian Standards and Commonwealth/State/Territory legislation and regulations encompassing:

- Australian Standard AS/NZS 3760
- Commonwealth/State/Territory Occupational Health and Safety Acts and Regulations
- Limitations of work that can be undertaken
- Codes of Practice and associated guidance material
- Risk management principles

T2 Basic electrical testing concepts encompassing:

- Basic electrical circuits
- Functions of electrical circuit
- Conductors and insulators
- Basic electrical supply system
- Relationship of electrical quantities
- Effects of electrical currents
- Methods/devices used to negate or minimise electrical shock
- Portable Appliance Testers (PAT)
- PAT maintenance and calibration

T3 Electrical equipment and cord assemblies testing encompassing:

- Classification of electrical equipment
- Inspection of electrical equipment (visual inspections)
- Using PAT:
  - Earth continuity testing
  - Insulation resistance testing
  - Polarity testing (extension cords and IEC cords)

T4 Testing and tagging documentation requirements encompassing:

- Risk assessment documentation
- frequency of inspection and testing
- tagging of equipment

## **REQUIRED SKILLS AND KNOWLEDGE**

- records maintenance



## 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 and shall be used in conjunction with all components 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-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. 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 issues inherent in working with electricity, electrical equipment, gas or any other hazardous substance/material present a challenge for those determining competence. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday work influence decisions about how/how much 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)**

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:
  - Conduct in-service safety testing of electrical cord connected equipment and cord assemblies as described in 8) and including:
    - a. Preparing the portable apparatus tester

- b. Connecting cords and apparatus to the testing apparatus
- c. Using test results to establish the safety status
- d. Identifying safe and unsafe cords and apparatus
- e. Applying appropriate tagging
- f. Documenting testing activities
- g. Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in a holistic assessment with the above listed items

Note:

Successful completion of relevant vendor training may be used to contribute to evidence on which competency is deemed. In these cases the alignment of outcomes of vendor training with performance criteria and critical aspects of evidence shall be clearly identified.

**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.
- Workplace evidence to be produced in an industry/regulator approved recording system (logbook) confirming skills development under appropriate supervision

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 conducting in-service safety testing of electrical cord connected equipment and cord assemblies.

**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 intended primarily 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 in-service safety testing of at least two different electrical cords and two different items of cord connected equipment with safety faults.

Safe Working. Safe procedures for working within in the scope of this unit shall be in accordance with AS/NZS 4836 'Safe working on low-voltage electrical installations.' 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)**

Restricted and Specialisations