



Australian Government

Department of Education, Employment and Workplace Relations

UEENEEA105A Conduct quality and functional tests on assembled electronic apparatus

Release: 1

UEENEEA105A Conduct quality and functional tests on assembled electronic apparatus

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit covers setting up testing equipment, inspecting the quality and testing functionality of electronic apparatus. It encompasses working safely with electricity, testing device set-up, following testing and inspection procedures, interpreting and reporting testing and inspection results and making recommendations for dealing with defects.

Application of the Unit

Application of the Unit 2)

This unit is intended for competency development entry-level employment-based programs incorporated in approved contracts of training.

Licensing/Regulatory Information

License to practice 3)

The skills and knowledge described in this unit do not require a licence to practise in the workplace. However, practice in this unit is subject to regulations directly related to occupational health and safety and where applicable contracts of training such as apprenticeships.

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.

UEENEEA1 Modify electronic sub assemblies
04A

UEENEEA1 Assemble electronic components
01A

UEENEEA1 Select electronic components for assembly
02A

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

UEENEEE1 Fabricate, assemble and dismantle utilities
02A industry components

AND

UEENEEE1 Solve problems in ELV single path circuits
03A

OR

UEENEEE1 Solve problems in d.c. circuits
04A

For the full prerequisite chain details for this unit please refer to Table 2 in Volume 1, Part 2

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 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills 5)

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 conduct testing and inspection.	1.1 OHS procedures for a given work area are identified, obtained and understood
	1.2 OHS risk control measures for work preparation are followed
	1.3 Documented apparatus functions and quality requirements are identified, obtained and understood
	1.4 Testing processes and procedures are reviewed and testing equipment is checked for correct operation and safety
	1.5 Apparatus testing and inspection is coordinated with others involved in the work to ensure work schedules are met and safety measures are followed

ELEMENT	PERFORMANCE CRITERIA
2 Conduct apparatus tests.	2.1 OHS risk control work measures and procedures 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 Apparatus is checked as being isolated where necessary in strict accordance OHS requirements and procedures
	2.4 Testing is conducted in accordance with principles and technology of electrical measurement
	2.5 Test results are interpreted within the scope of required functionality and quality
3 Conduct apparatus inspection.	3.1 OHS risk control work measures and procedures are followed
	3.2 Apparatus is checked as being isolated where necessary in strict accordance OHS requirements and procedures
	3.3 Apparatus is inspected for compliance with quality/industry standards
	3.4 Work is completed in acceptable timeframe and given environment and workplace conditions
4 Report on apparatus testing and inspection.	4.1 Recommendations on repairs to defects are reported within the scope of established procedures
	4.2 Report forms/data sheets on testing and inspection are completed accurately

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Evidence must show that knowledge has been acquired of safe working practices, conducting quality and functional tests on assembled electronic apparatus.

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

KS01-EA105A Electronic assembly quality and functional testing techniques

Evidence shall show an understanding of electronic assembly quality and functional testing techniques, applying safe working practices and relevant Standards, Codes and Regulations to an extent indicated by the following aspects:

T1. Test equipment encompassing:

- types
- operation
- setting up

Note. Testing equipment may be specific to a workplace and the electronic assembly under test

T2. Testing encompassing:

- requirements
- routine testing procedures
- check lists
- interpreting test results within given parameters

T3. Quality inspection encompassing:

- requirements
- routine testing procedures
- check lists
- interpreting test results within given parameters

T4. Non-compliance reporting encompassing:

- methods and procedures
- documentation

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit. It must be read in conjunction with the performance criteria and the range statement of the unit and the Training Package Assessment Guidelines.

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-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 accord 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 must be met.

Evidence for competence in this unit must 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 functional and quality tests on assembled electronic apparatus as described in 8) and including:

- A Following job specifications.
- B Selecting and using testing and measuring device correctly.
- C Interpreting test results.

- D Identifying visual defects.
- E Reporting test results.
- F Recommending appropriate actions for dealing with defect apparatus.
- G 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 in this unit.

These should be used in the formal learning/assessment environment.

Note:

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

The resources used for assessment should reflect current industry practices in relation to conducting functional and quality tests on assembled electronic apparatus.

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 must be demonstrated in relation to conducting quality and functional tests on assembled electronic apparatus in an environment designed specifically for the purpose.

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)

Assembly