



Australian Government

UEENEEK110A Co-ordinate maintenance of renewable energy (RE) apparatus and systems

Release: 2

UEENEEK110A Co-ordinate maintenance of renewable energy (RE) apparatus and systems

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit covers coordinating the maintenance of renewable energy apparatus and systems. It encompasses working safely, following maintenance schedules, ascertaining the extent of any repairs required, and the personnel needed to repair the breakdown, providing technical support to maintenance personnel and reporting.

Application of the Unit

Application of the Unit 2)

This unit is intended primarily for indigenous persons seeking qualifications in RAPS system servicing. The unit may also be applied to work entry qualifications in renewable energy service work in general.

Licensing/Regulatory Information

License to practice 3)

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

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

UEENEEE1 02A Fabricate, assemble and dismantle utilities industry components

UEENEEE1 03A Solve problems in ELV single path circuits

UEENEEK1 01A Maintain safety and tidiness of remote area power supply systems

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 coordinate maintenance	<p>1.1 OHS procedures for a given work area are obtained and understood</p> <p>1.2 Established OHS risk control measures and procedures are followed in preparation for the work</p> <p>1.3 Safety hazards which have not previously been identified are documented and risk control measures devised and implemented in consultation with appropriate personnel</p> <p>1.4 The extent of work is determined from job specifications, drawings and regulatory requirements</p> <p>1.5 Appropriate personnel are consulted to ensure the work is coordinated effectively with others involved on the work site</p> <p>1.6 Competencies needed to undertake work are determined from job specifications and/or consultation with appropriate personnel</p> <p>1.7 Personnel and materials needed to undertake maintenance are obtained in accordance with established procedures and checked against job requirements</p> <p>1.8 Tools, equipment and testing devices needed to undertake maintenance are obtained in accordance with established procedures and checked for correct operation and safety</p> <p>1.9 Preparatory work is checked to ensure no damage has occurred and complies with</p>

ELEMENT	PERFORMANCE CRITERIA
	requirements
2 Carry out maintenance	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 Maintenance is carried out in compliance with technical standards and job specifications and requirements
	2.5 Decisions for dealing with unexpected situations are made from discussions with appropriate persons and job specifications and requirements.
	2.6 Methods for dealing with unexpected situations are selected on the basis of safety and specified work outcomes.
	2.7 Ongoing checks of the quality of maintenance are undertaken in accordance with job specification, technical standards and/or regulatory requirements
	2.8 Work efficiently without waste of materials and energy or damage to apparatus, circuits, the surrounding environment or other services
3 Complete work	3.1 OHS risk control work completion measures and procedures are followed
	3.2 Work site is made safe in accordance with established safety procedures
	3.3 Verify maintenance conforms to requirements
	3.4 Work completion is documented and appropriate person(s) 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 must show that knowledge has been acquired of safe working practices and co-ordinating maintenance of renewable energy apparatus and systems.

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

KS01-EK110 Scheduled maintenance process

A

Evidence shall show an understanding of scheduled maintenance processes to an extent indicated by the following aspects:

Maintenance principles encompassing:

- maintenance function
- role of maintenance department
- occupational health and safety requirements

Maintenance systems encompassing:

- maintenance terminology
- preventative maintenance
- predictive maintenance
- corrective maintenance

Data acquisition encompassing:

- plant history cards/files
- inspection techniques
- predictive maintenance
- remote visual inspection
- non-destructive testing
- thermography
- vibration analysis
- oil analysis

Maintenance plan encompassing:

- characteristics of plant operation
- assessment of failure characteristics

REQUIRED SKILLS AND KNOWLEDGE

- link failure characteristics to maintenance systems
- identify production windows
- resources
- labour
- materials
- establish plan
- implementation procedures

Review of maintenance plan encompassing:

- analysis of records
- manual recording methods

Computerised recording methods.

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit and 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. 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 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 must be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines – UEE11'. Evidence must 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 must 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:
 - Co-ordinate maintenance of renewable energy apparatus and systems as described in 8) and including:

A	Interpreting maintenance schedule requirements correctly
B	Accessing appropriate plant, materials and personnel
C	Following maintenance schedule
D	Evaluating apparatus for compliance with specified requirements
E	Arranging for corrective action of non compliant apparatus
F	Documenting maintenance work.
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

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 co-ordinating maintenance of renewable energy apparatus and systems.

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 may be demonstrated in relation to co-ordinating maintenance of renewable energy apparatus and systems.

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)**

Renewable and Sustainable Energy