



**Australian Government**

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

# **UEENEEK008B Plan periodic maintenance schedules of remote area power supplies**

**Release: 1**

## **UEENEEK008B Plan periodic maintenance schedules of remote area power supplies**

### **Modification History**

Not Applicable

### **Unit Descriptor**

#### **Unit Descriptor**

**1)**

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

This unit covers plant maintenance planning and scheduling. It encompasses developing and self managing simple maintenance programs, replacing some specified components and reporting of maintenance work.

### **Application of the Unit**

#### **Application of the Unit 4)**

This unit is intended for competency development entry-level employment-based programs incorporated in approved contracts of training and may be used to augment other electrotechnology qualifications at AQF 3 level or higher. Additionally, this unit may apply to indigenous persons entering work in remote area power supply (RAPS) servicing. The unit may also apply to renewable energy service work in general and be used in school-based vocational programs.

## Licensing/Regulatory Information

### 1.2) License to practice

The skills and knowledge described in this unit may, in some States/Territories, require a license to practice in the workplace subject to regulations for undertaking plant maintenance planning and scheduling related to RAPS work. Practice in workplace and during training may 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.

## Pre-Requisites

**Prerequisite Unit(s)**            2)

### 2.1) Competencies

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

UEENEEE001B Apply OHS practices in the workplace

UEENEEE033B Document occupational hazards and risks in electrical

UEENEEK002B Work safely with remote area power supply (RAPS) systems

UEENEEK003B Conduct periodic maintenance of remote area power supply (RAPS) battery banks

UEENEEK004B Conduct periodic maintenance of remote area power supply (RAPS) generator sets

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

## Employability Skills Information

- Employability Skills**      **3)**  
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 unit      Performance criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance must be consistent with the evidence guide.

## Elements and Performance Criteria

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
1 Establish maintenance requirements	1.1 OHS policies and procedures, skills required and frequency and level of maintenance work are determined in accordance with maintenance routines
	1.2 Records are established to manage maintenance work and up-to-date accordance with routine procedures
	1.3 Level of replacement or repair to be done under maintenance work is established in accordance with manufacturer and community requirements
	1.4 Needed maintenance program, including basic periodic instruction in demand side use, is established in accordance with local community requirements

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
2 Develop and implement maintenance schedule	2.1 Maintenance schedules are developed from recommendations of equipment manufacturers and in accordance with RAPS system safety and performance requirements
	2.2 Procedures are developed and implemented to ensure the maintenance program is followed in accordance with the planned schedule and requirements
	2.3 Procedures are developed and implemented to ensure records are maintained in accordance with planned schedule and requirements
3 Evaluate maintenance program	3.1 Periodic and sample inspection reports are used to ascertain maintenance quality and the need for revision of maintenance schedule and frequency
	3.2 Maintenance schedule is periodically reviewed and revised to maintain the integrity of the RAPS system

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

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

Evidence must show that knowledge has been acquired of plant maintenance planning and scheduling, encompassing the development and self management of simple maintenance programs, replacing some specified components and reporting of maintenance work.

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

The extent of the essential knowledge and associated skills (EKAS) required is given in Volume 2 - Part 2.2 EKAS. It forms an integral part of this unit.

- 2.13.4 RAPS systems photovoltaic array maintenance techniques
- 2.13.7 RAPS system maintenance schedule

## **REQUIRED SKILLS AND KNOWLEDGE**

2.13.8 Scheduled maintenance processes

2.20.3 Introduction to renewable energy technologies

2.20.5 Remote area essential services facilities

## 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.

## EVIDENCE GUIDE

### 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 - UEE07'. 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, polices and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
  - Develop a plan for periodic maintenance of RAPS systems located in different communities as listed in 8). It must incorporate the following components:
    - A Safety requirements
    - B Items to be check and tested
    - C Items to be replaced or repaired
    - D Frequency of the periodic maintenance

## EVIDENCE GUIDE

- E Materials and equipment required
- F Time needed to conduct maintenance on each RAPS system
- G Travel distance and times to each community
- H Protocols for working in different communities,
- I Methods for recording and evaluating maintenance,
- J 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.
- Access to a supervisor for obtaining work instructions and advice.
- Maintenance and repair materials
- Maintenance requirements for RAPS system incorporating Battery bank; Engine driven generator sets; Fuel storage; Inverter and regulator; Photo voltaic array, and Wind generators.
- 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 developing a plan for periodic maintenance of RAPS systems located in different communities.

## EVIDENCE GUIDE

### 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)

For optimisation of training and assessment effort, competency development in this unit may be arranged concurrently with unit:

UEEEEEK003A	Conduct periodic maintenance of remote area power supply battery banks
UEEEEEK004A	Conduct periodic maintenance of remote area power supply generator sets
UEEEEEK006A	Conduct periodic maintenance of remote area power supply wind generators

## Range Statement

### RANGE STATEMENT

8) 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 plant maintenance planning and scheduling including developing and self managing simple maintenance programs, replacing some specified components and reporting of maintenance work according to established procedures and requirements.

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

### 2.2) Literacy and numeracy skills

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
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### 2.2) Literacy and numeracy skills

Competency Field 5)

Renewable and Sustainable Energy