



Australian Government

Department of Education, Employment and Workplace Relations

UEENEEK102A Work safely with remote area power supply systems

Release: 1

UEENEEK102A Work safely with remote area power supply systems

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit covers safety practices for working on remote area power supply (RAPS) systems. It encompasses identifying safety hazards, using risks control measures and following routine procedures for prescribed system maintenance.

Note:

Components of this unit are included in the critical aspects of evidence in each applicable unit to ensure that OHS practices are demonstrated as they apply to RAPS system servicing work functions and situations

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 and be used in school-based vocational programs.

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

License to practice 3)
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 Safety regulations, codes and practices in the workplace

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 enter a RAPS system	1.1 Instruction in hazards and risk control measures for RAPS systems maintenance are identified, obtained and understood. 1.2 System access permit is obtained from work supervisor. 1.3. Preparations for electrical and non-electrical isolation are made to prevent creation of hazards 1.4 Tools and equipment needed for the work are checked for safety and correct functionality according to established safety routines.
2 Apply safe working practices in RAPS system area.	2.1 Workplace procedures and work instructions for controlling risk are followed accurately. 2.2 Workplace procedures for dealing safe working practices in RAPS system are followed according to prescribed work procedures. 2.3 Circuits/machines/system are checked as being isolated where necessary in strict accordance OHS requirements and procedures. 2.4 Routine procedures are used to apply safe working practices in RAPS system and area. 2.5 Safe working practices are carried out efficiently without waste of materials and energy or damage to apparatus, circuits, the surrounding environment or services. 2.6 Routine quality checks are carried out in accordance with work instructions.

ELEMENT	PERFORMANCE CRITERIA
3. Follow workplace procedures for hazard identification and risk control in RAPS system areas	3.1 Hazards are identified and prescribed control measures implemented and monitored through active participation in the consultation process with employer, other employees and local community.
	3.2 Hazards in the work are recognised and reported to work supervisor personnel according to established procedures.
	3.3 OHS records of incidents are completed in accordance with regulatory requirements and established procedures
	3.4 Workplace instructions and training are followed accurately within 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 working safely with remote area power supply (RAPS) systems.

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

KS01-EK102A Remote area power supply safe working practice

Evidence shall show an understanding of RAPS safe working practices to an extent indicated by the following aspects:

General safety encompassing:

- General safety
- Risk assessment
- Personal protective equipment
- OHS procedures

RAPS safety and risk assessment encompassing:

- Types of hazards in and around remote area power supplies

Note: In addition to the safety hazards found in most workplace RAPS systems are likely to have the hazards related to electricity

REQUIRED SKILLS AND KNOWLEDGE

supplied from more than one source, rotating machines, fuels and oils, exhaust fumes, and acids and flammable gases from batteries.

- Measures for dealing with hazards in and around remote area power supplies
- Purpose and methods for isolation and de-energisation of power supplies

Correct isolation and de-energisation procedures encompassing:

- Processes for preventing generator from automatically starting
- Isolating photo voltaic arrays,
- Isolating wind driven generators,
- Isolating battery
- Isolating inverter power sources

Safety signage encompassing:

- Types of signs
- Location
- Condition
- Suitability

Access to system encompassing:

- Methods for limiting access to plant areas

Reporting

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:
 - Work safely with remote area power supply (RAPS) systems as described in 8) and including:

A Preparing to enter the RAPS system including, permission to enter the area and to isolate RAPS equipment

- B Applying work procedures and instructions as they apply to risk control measures
- C Dealing with accidents and emergencies
- D Participating in consultation processes, identifying hazards and implementing and monitoring control measures
- E 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 working safely with remote area power supply (RAPS) 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)

For optimisation of training and assessment effort, competence development in this unit may be arranged concurrently with other units in a qualification or possible skill clusters in which this unit is included.

The critical aspects of occupational health and safety covered in unit UEENEEE101A and other discipline specific occupational health and safety units shall be incorporated in relation to 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 least two different RAPS systems incorporating a battery bank, a generator set and a photo voltaic array and at least one similar RAPS system with the additions of a wind generator.

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