



Australian Government

UEENEEK116A Maintain and repair remote area power generation facilities

Release: 3

UEENEEK116A Maintain and repair remote area power generation facilities

Modification History

Release	Action	Core/Elective	Details	Points
2	Edit		Show full pre-req chain in the unit	

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit covers basic maintenance of power generation facilities in remote areas. It encompasses working safely, following maintenance schedules to inspect, repair, replace and adjustment equipment, maintaining a clean and efficient generation facility and completing the necessary reporting.

Application of the Unit

Application of the Unit 2)

This unit is intended primarily for indigenous persons seeking qualifications in remote area utilities facilities 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,

License to practice**3)**

practice in this unit is subject to regulations directly related to occupational health and safety and contracts of training such as new 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)****4)****Competencies****4.1)**

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

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Where pre-requisite pathways have been identified. All competencies in the Common Unit Group must have been completed plus all the competencies in one (1) of the identified Pathway Unit Group(s):

Electrotechnology

Remote Area

Common Unit Group

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

Prerequisite Unit(s) 4)

UEENEEE1 02A	Fabricate, assemble and dismantle utilities industry components
UEENEEE1 07A	Use drawings, diagrams, schedules, standards, codes and specifications
UEENEEK1 01A	Maintain safety and tidiness of remote area power supply systems
UEENEEK1 02A	Work safely with remote area power supply systems
UEENEEK1 04A	Conduct periodic maintenance of remote area power supply generator sets

Electrotechnology Pathway Group

UEENEEE1 04A	Solve problems in d.c. Circuits
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Remote Area Pathway Group

UEENEEE1 31A	Solve problems in ELV circuits for non electrical workers
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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
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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

Employability Skills 5)

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 maintain and repair remote area power generation facilities	<p>1.1 OHS procedures for a remote area power station facility are identified, obtained and understood through established routines and procedures</p> <p>1.2 Established OHS risk control measures and procedures in preparation for the work are followed</p> <p>1.3 Safety hazards which have not previously been identified are reported and advice on risk control measures is sought from the work supervisor</p> <p>1.4 The nature and location of remote area power station facility is obtained from documentation or from work supervisor to establish the scope of work to be undertaken</p> <p>1.5 Advice is sought from the work supervisor to ensure the work is coordinated effectively with fellow workers and the local community</p> <p>1.6 Sources of materials that may be required for the work are identified and accessed in accordance with established routines and procedures</p> <p>1.7 Tools, equipment and testing devices needed to carry out the work are obtained and checked for</p>

ELEMENT	PERFORMANCE CRITERIA
	correct operation and safety.
2 Maintain and repair remote area power generation facilities	2.1 Established OHS risk control measures and procedures for carrying out the work are followed
	2.2 Circuits/machines/plant are checked as being isolated where necessary in strict accordance OHS requirements and procedures
	2.2 Inspection, repairs, replacements and/or adjustments are carried out on items listed in the maintenance schedule and in accordance with established procedures.
	2.3 Fuel, coolant, oil and other fluid spills are cleaned and area made safe in accordance with established procedures.
	2.4 Batteries are serviced and/or replaced as specified in the maintenance schedule and in accordance with established procedures.
	2.5 Consumables are removed and disposed of following environmentally safe procedures.
	2.6 Procedures are followed for referring non-routine events to immediate supervisor for directions
	2.7 Routine quality checks are carried out in accordance with work instructions
3 Report maintenance and repair of remote area power generation facilities	3.1 OHS work completion risk control measures and procedures are followed.
	3.2 Procedures are followed for referring maintenance issues beyond the scope of prescribed work to persons of higher authority.
	3.3 Work carried out is reported to the work supervisor through the established maintenance reporting 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 maintaining and repairing facilities associated with remote area essential service operations.

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

KS01-EK116A Remote area essential services power plant

Evidence shall show an understanding of remote area essential services power plant to an extent indicated by the following aspects:

Minor service and maintenance procedures of diesel powered generation equipment in accordance with a prepared schedule encompassing:

- Types and grades of inspections, repairs, replacement and/or adjustments under a maintenance schedule:
- Replacement items/materials include engine oil, oil filters, fuel filters, engine coolant system filters, air cleaners and fan belts;
- Inspection and repair items include leakages from fuel system, coolant system and lubricating oil system.
- Cleaning of fluid spills.
- Environmentally safe procedures for removal and disposal of consumables.

Servicing batteries and battery packs in a community power station in accordance with the prepared maintenance schedule encompassing:

- Hazards associated with batteries.
- Types of batteries and their application in a community power station (Starting battery set, switchboard (nicad) batteries)
- Battery maintenance techniques

Schedule regular servicing and maintenance encompassing:

- Engine oil and filter changes;
- Fuel filters;
- Coolant filters

REQUIRED SKILLS AND KNOWLEDGE

- Water trap devices
- Drive belt (condition/adjustment);
- Valve adjustments (if applicable);
- Major and minor mechanical servicing by outside agents;
- Air cleaner (both dry paper and oil bath types)

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:
 - Maintain and repair remote area power generation facilities as described in 8) and including:
 - A Understanding the location and nature of the work required
 - B Correctly inspecting, repairing, replacing and adjusting items listed in the maintenance schedule
 - C Cleaning fluid spills appropriately.
 - D Removing and disposing of consumable following environmentally safe procedures.
 - E Documenting work activities accurately
 - F 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 must 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.

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 maintaining and repairing facilities associated with remote area essential service operations.

**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.

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 remote area power generation facilities.

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