



**Australian Government**

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

# **UETDRTP22A Establish and reinstate a power systems transmission structure work site**

**Release: 1**

## **UETTD RTP22A Establish and reinstate a power systems transmission structure work site**

### **Modification History**

Not applicable.

### **Unit Descriptor**

#### **Unit Descriptor**

#### **1) Scope:**

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

This Competency Standard Unit covers the operation/maintenance of support plant and equipment and tools used for excavation work associated with foundations and footings for the construction of transmission towers. It also covers the preparation of the work site and the reinstatement of the ground surface. Scope of maintenance includes and is limited to visual inspection; lubrication; gland nipping; draining of water taps; degreasing; replacing gaskets. Use of relevant personal protective equipment is required.

### **Application of the Unit**

#### **Application of the Unit 2)**

This Unit is intended to augment formally acquired competencies. It is suitable for employment-based programs under an approved contract of training.

### **Licensing/Regulatory Information**

#### **License to practice 3)**

The skills and knowledge described in this unit may require a licence/registration to practice in the work place subject to regulations for undertaking of electrical work. Practice in workplace and during training is also subject to regulations directly related to Occupational Health and Safety, electricity/telecommunications/gas/water industry

**License to practice**

**3)**

safety and compliance, industrial relations, environmental protection, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

**Pre-Requisites**

**Prerequisite Unit(s)**

**4)**

**Competencies**

**4.1)**

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

Where pre-requisite pathways have been identified. All competencies in the Common Unit Group must be have been completed.

Common Unit Group

Unit Code	Unit Title
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UETTDREL13A	Comply with sustainability, environmental and incidental response policies and procedures

**Literacy and numeracy skills**

**4.2)**

Participants are best equipped to achieve 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 establish and or restore a transmission tower work site schedule of work	1.1	Work instructions are identified, received and confirmed.
		1.2	Relevant requirements, specifications and priorities are set as per procedures to establish and confirm the work schedule.
		1.3	OHS policies and procedures to be followed for the work to be performed are received and confirmed.
		1.4	Suggestions to assist with the establishing/restoration of the work site are made to others involved in the work.
		1.5	Hazards are identified, OHS risks assessed and emergency exits kept clear according to given instructions and established procedures.
		1.6	Scope of responsibility under the relevant work permit, where appropriate, are received and confirmed according to requirements and established procedures with relevant persons.

**ELEMENT**

**PERFORMANCE CRITERIA**

- 1.7 Resources including equipment, tools, drawings, notices and personal protective equipment required for the job are identified and checked for working order according to established procedures.
- 1.8 Relevant responsibilities associated with first aid and other related work safety procedures at the work site are checked and confirmed in accordance with requirements and established procedures to ensure safety measures are followed in the instance of an incident.
- 1.9 Client issues are referred to appropriate persons in accordance with industry/acceptable /community standards.
- 1.10 Site preparation is confirmed according to given instructions, as is the site safety plan and the work schedule for a quality outcome and to minimise risk and damage to property, commerce and individuals in accordance with established procedures.
- 1.11 Road signs, barriers and warning devices are confirmed as positioned in accordance with given instructions and requirements.
- 2 Establish and/or restore the work site schedule of work
  - 2.1 OHS and sustainable energy principles and practices to reduce the incidents of accidents and minimise waste associated with establishing/restoring the work site and/or using of plant and equipment, are followed, in accordance with given instructions, requirements and/or established procedures.
  - 2.2 Site hazards such as lifting, climbing, working in confined spaces and/or aloft, and use of power tools/equipment, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents.
  - 2.3 Operational knowledge for establishing/restoration of the work site and for operating support plant and equipment is

**ELEMENT**

**PERFORMANCE CRITERIA**

- confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures.
- 2.4 Establishing/restoring the work site and operating support plant and equipment is used safely and carried out in accordance with given instructions and established procedures to ensure all process aspects of the work are confirmed.
- 2.5 Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures.
- 2.6 Non-routine events are referred to the immediate authorised persons for directions according to established procedures.
- 2.7 Problems associated with establishing/restoring the work site and the operation of support plant and equipment are dealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met.
- 2.8 Ongoing checks of quality of the work are undertaken and work is completed within an allocated timeframe in accordance with given instructions and established procedures.
- 3 Review and document establishment and/or restoration of work site schedule of work
- 3.1 Work undertaken is checked against work schedule and anomalies reported to authorised persons in accordance with established procedures.
- 3.2 Accidents and/or incidents are actioned and reported to authorised persons in accordance with established procedures.
- 3.3 Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures.

**ELEMENT**

**PERFORMANCE CRITERIA**

- 3.4 Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures.
- 3.5 Appropriate persons are notified of work completion according to established procedures.
- 3.6 Work completion records, report forms/data sheets are completed accurately in accordance with given instructions and established procedures.
- 3.7 Performance feedback is sought to confirm outcomes are in agreement with work requirements and specifications.

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

**8) Essential Knowledge and Associated Skills (EKAS):** This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of establishing and reinstating a transmission tower work site.

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

KS01-TTP22A Power systems transmission structure work site

Evidence shall show an understanding of the power systems transmission structure work site to an extent indicated by the following aspects:

T1 Hand tools and their use encompassing:

- Hand tools for cutting, shaping, drilling, threading, tapping, and finishing metallic and non-metallic components - types of tools and their purpose, techniques for the correct and safe use of these tools, hazards associated with their use, care and maintenance of hand tools.
- Tools for measuring and marking out - types of tools and their purpose, techniques for the correct and safe use of these tools, hazards associated with their use, care and maintenance of hand tools
- Tools for dismantling and assembling electrical and electronic components - types of tools and their purpose, techniques for the correct and safe use of these tools, hazards associated with their use, care and maintenance of hand tools.

T2 Fixed and portable tools and their use encompassing:

- Fixed power tools for cutting, shaping, drilling, and finishing metallic and non-metallic components - types of tools and their purpose, techniques for the correct and safe use of these tools, hazards associated with their use, care and maintenance of fixed power tools.
- Portable power tools for cutting, shaping, drilling, and structural components - types of tools and their purpose, techniques for the correct and safe use of these tools, hazards associated with their use, care and maintenance of fixed power tools, requirements for use on construction sites.

T3 Materials properties encompassing:

- Identification and classification of engineering materials material properties
- Types and applications - properties of tensile strength, effects of temperature on the expansion of metals, ductibility, malleability, work hardening and annealing and the conditions that lead to corrosion and the properties of timbers.

T4 Requirements for the use of enterprise vehicles such as, trucks and four wheel drives encompassing:

- Standards, codes, legislation, supply authority regulations and or enterprise requirements associated with safe use of enterprise vehicles including relevant certification and licensing such as motor cars, light and heavy commercial trucks, heavy truck/trailer combination, four wheel drive vehicles.
- Compliance with regulations associated with the securing of loads prior for



## REQUIRED SKILLS AND KNOWLEDGE

transportation.

T5 Requirements for the use of chain saws including relevant certification and licensing encompassing:

- Safety precautions, requirements and responsibilities
- Selection and use of appropriate personal protective equipment
- Chain saw operation - parts and function of components and ancillary equipment, pre-operational checks, starting procedures, safe use of chain saw under load.
- Safe transporting and storage procedures.

## Evidence Guide

### EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit of competency and must be read in conjunction with the Performance Criteria and the Range Statement of the unit of competency and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all component 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's 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 in this regard.

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. Hence, sources of evidence need to be 'rich' in nature so as 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 practiced. 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 shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the "Assessment Guidelines – UET12". Evidence shall also comprise:

- A representative body of Performance Criteria 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; and
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range; and
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment; and
  - Demonstrate an appropriate level of employability skills; and

- Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures; and
- Demonstrated performance across a representative range of contexts from the prescribed items below:

<b>Range of tools/equipment/materials/procedures/workplaces/other variables</b>		
<b>Group No</b>	<b>The minimum number of items on which skill is to be demonstrated</b>	<b>Item List</b>
A	All of the following	Using plans, drawings, maps/work schedule define work to be completed, indicating OHS and environmental issues/hazards. Verify qualifications to operate machinery and perform machinery daily log checks. Submit Dial Before You dig application form. Verify understanding of material safety data sheets (MSDS) and work permits. Undertake appropriate traffic control management Verify an understanding of working safely with hazardous materials and equipment, safe manual handling techniques and correct use of personal protective equipment.
B	Operate at least 5 of the following	Small generator sets Welding units Air Compressors and

		hoses Pneumatic and/or electric hammers Rollers and compactors Concrete and ceramic cutters Pumps Post hole diggers Drills
C	Operate at least one of the following	Back hoes Earth drilling rigs Trench excavators Heavy vehicles
D	At least one occasion	Dealing with an unplanned event by drawing on essential knowledge and associated 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 installation and maintenance on de-energised low voltage underground polymeric cables.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency working in realistic environment and a variety of conditions.

**Method of  
assessment**                    **9.4)**

This Competency Standard 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 Transmission, Distribution and Rail Traction Industry. This requires that the specified essential knowledge and associated skills are assessed 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 associated skills described in this unit.

**Concurrent  
assessment and  
relationship with  
other units**                    **9.5)**

For optimisation of training and assessment effort, competence in this unit may be assessed concurrently with the following units:

UETTD RTP2   Erect power systems transmission structures  
3A

UETTD RTP2   Erect power systems transmission structure  
4A                    hardware

## Range Statement

### RANGE STATEMENT

**10)** This relates to the unit of competency 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 Competency Standard Unit shall be demonstrated in relation to establishing and/or restoring the work site using support plant, equipment and tools to perform work in a utilities industry work environment.

Support plant may include back hoes, earth drilling rigs, trench excavators, heavy vehicles, wood-chippers, concrete cutters, air compressors, portable generators, welders, crimper-cutters, pumps, chain-saws, post hole diggers, sand-blasters, pneumatic and/or electric hammers, rollers and compactor, concrete and ceramic cutters, boring equipment, trenching equipment and drills.

Equipment may include hand operated ratchet and friction grip winches, chain pullers and block and tackle.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

- Appropriate and relevant persons (see Personnel)
- Appropriate authorities
- Appropriate work platform
- Assessing risk
- Authorisation
- Confined space
- Documenting detail work events, record keeping and or storage of information
- Drawings and specifications
- Emergency
- Environmental and sustainable energy procedures
- Environmental legislation
- Established procedures
- Fall prevention
- Hazards
- Identifying hazards
- Legislation
- MSDS
- Notification
- OHS practices
- OHS issues
- Permits and/or permits to work
- Personnel

## **RANGE STATEMENT**

- Quality assurance systems
- Requirements
- Work clearance systems.

## **Unit Sector(s)**

Not applicable.

## **Competency Field**

**Competency Field**            **11)**

Transmission Units