



Australian Government

UETDRTO007 Install and maintain transmission structures and hardware

Release: 1

UETDRTO007 Install and maintain transmission structures and hardware

Modification History

Release 1. This is the first release of this unit of competency in the UET Transmission, Distribution and Rail Sector Training Package Release 2.0.

Application

This unit involves the skills and knowledge required to install and maintain transmission structures and hardware in the electricity supply industry (ESI).

It includes the installation and maintenance of de-energised and isolated transmission poles, towers and hardware in accordance with work plan, drawings and workplace requirements.

The application of the skills and knowledge described in this unit may require a licence/registration to practice in the workplace.

Other conditions may also apply under state and territory legislative and regulatory licensing requirement which must be confirmed prior to commencing this unit.

Pre-requisite Unit

CPCCLRG3001 Licence to perform rigging basic level

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

UEECD0019 Fabricate, assemble and dismantle utilities industry components

UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

UETDREL001 Apply environmental requirements

UETDREL004 Operate plant and equipment in the vicinity of live electrical apparatus

UETDREL005 Work safely in the vicinity of live electrical apparatus

Competency Field

Transmission Overhead

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Prepare to install and maintain transmission structures and hardware

- 1.1** Legislation, regulations, standards, codes of practice and organisational workplace requirements for the work to be performed are referred to and confirmed
- 1.2** Work plan is obtained and confirmed in accordance with workplace requirements
- 1.3** Materials required for work are determined and obtained in accordance with work plan and workplace requirements
- 1.4** Plant, tools, equipment and personal protective equipment (PPE) required for work are determined, obtained and confirmed in working order
- 1.5** Hazards are identified, risks are assessed and control measures identified and applied
- 1.6** Safety observer role and responsibilities are discussed and confirmed in accordance with workplace requirements
- 1.7** Communication method between the workers and safety observer is determined and confirmed in accordance with workplace requirements
- 1.8** Safe approach distances for the work to be performed are determined and confirmed in accordance with workplace requirements
- 1.9** Work is prioritised and sequenced for completion in accordance with work plan and workplace requirements
- 1.10** Work permits are received and signed in accordance with workplace requirements
- 1.11** Worksite is prepared in accordance with the work plan and workplace requirements
- 1.12** Traffic management plan is confirmed as being in place in accordance with workplace requirements

2 Carry out the installation

- 2.1** Legislation, regulations, standards, codes of practice and

of transmission structures and hardware	organisational workplace requirements for the work to be performed are applied and monitored
2.2	Lifting, working at heights and the use of plant, tools, equipment and PPE are carried out in accordance with workplace requirements
2.3	Hazard control measures are monitored in accordance with workplace requirements
2.4	Safety observer is positioned to observe the work in accordance with workplace requirements
2.5	Communication methods between workers and safety observer are used in accordance with workplace requirements
2.6	Safe approach distances are maintained when the work is being performed in accordance with workplace requirements
2.7	Transmission structures and hardware are assembled and installed in accordance with construction plans, drawings and workplace requirements
2.8	Incidents or unplanned events are responded to in accordance with workplace requirements
2.9	Quality checks of work are undertaken in accordance with work plan and workplace requirements
3 Carry out the maintenance of transmission structures and hardware	3.1 Legislation, regulations, standards, codes of practice and organisational workplace requirements for the work to be performed are applied and monitored
	3.2 Working earths are installed in accordance with workplace requirements
	3.3 Lifting, working at heights and the use of plant, tools, equipment and PPE are carried out in accordance with workplace requirements
	3.4 Hazard control measures are monitored in accordance with workplace requirements
	3.5 Safety observer is positioned to observe the work in accordance with workplace requirements
	3.6 Communication methods between workers and safety

observer are used in accordance with workplace requirements

- 3.7 Safe approach distances are maintained when the work is being performed
- 3.8 Maintenance of structure and hardware is carried out in accordance with the work plan and workplace requirements
- 3.9 Incidents or unplanned events are responded to in accordance with workplace requirements
- 3.10 Quality checks of work are undertaken in accordance with work plan and workplace requirements

4 Complete work and documentation

- 4.1 Completed work is checked for compliance against the work plan and workplace requirements
- 4.2 Incidents or unplanned events are reported in accordance with workplace requirements
- 4.3 Worksite is rehabilitated, cleaned and made safe in accordance with workplace requirements
- 4.4 Plant, tools and equipment are cleaned, checked and returned to storage in accordance with workplace requirements
- 4.5 Surplus materials are returned to storage or disposed of in accordance with workplace requirements
- 4.6 Work permits are signed off in accordance with workplace requirements
- 4.7 Work records, reports and documentation are completed in accordance with workplace requirements

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UET Transmission, Distribution and Rail Sector Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is not equivalent to UETTD RTP26 Install transmission structures and associated hardware and UETTD RTP27 Maintain transmission structures and associated hardware.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=229bace1-b7bc-4653-9300-dffb13ecfad7>

Assessment Requirements for UETDRT0007 Install and maintain transmission structures and hardware

Modification History

Release 1. This is the first release of this unit of competency in the UET Transmission, Distribution and Rail Sector Training Package Release 2.0.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least two separate occasions and include:

- applying relevant legislation, regulations, standards, codes of practice and organisational workplace requirements, including:
 - work health and safety (WHS)/occupational health and safety (OHS)
 - safe approach distances
- identifying hazards, assessing risks, identifying, applying and monitoring control measures
- obtaining, inspecting and using relevant personal protective equipment (PPE)
- installing at least two (2) types of structures
- installing all of the following hardware:
 - insulators
 - bolts
 - structural components
- maintaining at least two (2) types of structures
- maintaining at least two (2) types of hardware
- replacing at least two (2) of the following insulators:
 - strains/termination
 - suspension
 - post
 - V strings
- installing working earths in accordance with workplace requirements
- installing temporary work platform
- dealing with an unplanned event on at least one (1) occasion
- obtaining and signing on and off relevant work permits in accordance with workplace requirements
- completing relevant work records, reports and documentation.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of

the requirements of the elements and performance criteria and include knowledge of:

- relevant legislation, regulations, standards, codes of practice and organisational workplace requirements, including:
 - WHS/OHS
 - safe approach distances
 - transmission voltages
 - working earths
- hazard, risk assessment and risk control requirements, including potential hazards of:
 - induced voltages
 - currents
- types and application of PPE
- safe use of plant, tools and equipment
- application, purpose and types of permits
- events constituting an unplanned event or incident
- procedures for responding to an unplanned event or incident
- construction manuals, system diagrams/plans and drawings
- role and responsibilities of a safety observer
- types and location of structures
- types and function of hardware
- types and function of insulators
- types of foundations
- structure stabilisation methods
- calculation of conductor forces
- temporary work platforms
- conductor protective hardware, including:
 - types and selection of common dampers, tools and equipment
 - control of Aeolian vibration
- third-party assets used on transmission structures, e.g., mobile communication antenna.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations, where it is appropriate to do so.

Where this is not appropriate, assessment must occur in simulated conditions involving realistic and authentic activities that replicate operational workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy

requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- relevant and appropriate materials, tools, facilities, equipment and PPE currently used in industry for the installation and maintenance of transmission structures and hardware
- applicable documentation, including workplace requirements, relevant industry standards, regulations, codes of practice and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=229bace1-b7bc-4653-9300-dffb13ecfad7>