



Australian Government

UETDRRC003 Install and maintain public lighting systems in a very remote community

Release: 1

UETDRRC003 Install and maintain public lighting systems in a very remote community

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 overhead and underground public lighting systems in very remote communities in the electricity supply industry (ESI).

It includes the installation and maintenance of public lighting poles/columns, street lighting cable, hardware and components, wiring and earthing systems. It also includes the inspection, testing and commissioning associated with the public lighting system.

All work on public lighting systems within very remote communities must be undertaken in an isolated environment other than for testing purposes.

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 requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

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

UEECD0019 Fabricate, assemble and dismantle utilities industry components

UEECD0046 Solve problems in single path circuits

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

UETDRRC006 Perform low voltage electricity network switching in a very remote community

UETDRRC007 Solve problems in electrical network apparatus in a very remote community

UETDRRC008 Solve problems in low voltage electrical network circuits in a very remote community

Competency Field

Remote Community

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to install and maintain public lighting systems

PERFORMANCE CRITERIA

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

- 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** Work is prioritised and sequenced for completion in accordance with workplan and workplace requirements
- 1.5** Hazards are identified, risks assessed and control measures identified and applied
- 1.6** Public lighting system is verified as isolated and earthed/short circuited in accordance with workplace requirements
- 1.7** Work permits are received and signed in accordance with workplace requirements
- 1.8** Plant, tools, equipment and personal protective equipment (PPE) required for work are determined, obtained and confirmed in working order
- 1.9** Worksite is prepared in accordance with work plan and workplace requirements
- 1.10** Traffic management plan is confirmed as being in place

- in accordance with workplace requirements
- 2 Carry out installation and maintenance of public lighting systems**
- 2.1** Legislation, regulations, standards, codes of practice and organisational workplace requirements for the work to be performed are applied and monitored
- 2.2** Lifting, climbing, 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** Excavation/foundation construction is inspected and confirmed as compliant in accordance with work plan and workplace requirements
- 2.5** Public lighting systems are installed and maintained in accordance with work plan and workplace requirements
- 2.6** Hardware, fittings and control gear are installed in accordance with workplace requirements
- 2.7** Street lighting cable and earthing systems are installed in accordance with workplace requirements
- 2.8** Public lighting and hardware are inspected for compliance in accordance with work plan and workplace requirements
- 2.9** Earthing and short circuiting equipment is removed, permit signed off and public lighting system is re-energised in accordance with workplace requirements
- 2.10** Public lighting system is tested and commissioned in accordance with work plan and workplace requirements
- 2.11** Incidents or unplanned events are responded to in accordance with workplace requirements
- 2.12** Quality checks of work are undertaken in accordance with work plan and workplace requirements
- 3 Complete work and documentation**
- 3.1** Completed work is checked for compliance against the work plan and workplace requirements
- 3.2** Incidents or unplanned events are reported in accordance with workplace requirements
- 3.3** Worksite is rehabilitated, cleaned and made safe in

accordance with workplace requirements

- 3.4 Plant, tools and equipment are cleaned, checked and returned to storage in accordance with workplace requirements
- 3.5 Surplus materials are returned to storage or disposed of in accordance with workplace requirements
- 3.6 Work records, reports and documentation are completed, and appropriate personnel notified 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 equivalent to UETTDRI38 Install and maintain public lighting systems in remote communities.

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 UETDRRC003 Install and maintain public lighting systems in a very remote community

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)
- identifying hazards, assessing risks, identifying, applying and monitoring control measures
- obtaining, inspecting and using relevant personal protective equipment (PPE)
- obtaining and signing on and off relevant work permits in accordance with workplace requirements
- verifying public lighting system has been isolated and earthed/short circuited in accordance with work plan and workplace requirements
- installing and maintaining public lighting systems on poles or columns, including at least one (1) of the following:
 - wood
 - concrete
 - steel
 - composite
- installing lanterns/luminaires, including at least two (2) of the following:
 - high pressure mercury vapour
 - low pressure and high-pressure sodium vapour
 - fluorescent
 - quartz-halogen
 - light-emitting diode (LED)
- restoring supply to public lighting system in accordance with workplace requirements
- testing public lighting system connections, including all the following:
 - continuity test
 - voltage test
 - neutral loop impedance
 - insulation resistance
- undertaking maintenance of public lighting lanterns/luminaires, including at least two (2) of

the following:

- removing
- repairing
- replacing
- cleaning
- working from at least one (1) of the following:
 - elevated work platform (EWP)
 - platform
 - ladder
- dealing with an unplanned event on at least one (1) occasion
- 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:

- legislation, regulations, standards, codes of practice and organisational workplace requirements, including:
 - WHS/OHS
- hazard, risk assessment and risk control requirements, including potential hazards
- types and application of PPE
- safe use of plant, tools and equipment
- application, purpose and types of work permits
- types of lighting systems for overhead and underground, including:
 - wood, concrete, steel and composite poles
 - public lighting brackets
 - associated hardware
- safety precautions specific to working on public lighting, including:
 - safe working practices and procedures
 - working at heights
 - permit to work systems
 - isolation procedures
- basic public lighting principles, including:
 - electromagnetic spectrum
 - principles of colour
 - behaviour of light
 - factors that affect illumination
- requirements for the use of workplace construction manuals, systems, diagrams, plans and drawings, including:
 - public light construction

- public lighting circuits
- earthing systems
- types of tools, equipment and specialised testing equipment
- types and function of lanterns/luminaries/lamps and control equipment, including:
 - high-pressure mercury vapour
 - low pressure and high-pressure sodium vapour
 - fluorescent
 - quartz-halogen
 - choke boxes
 - photo-electric cells
 - time switches
 - contactor boxes
 - LED
- techniques for the installation of public lighting systems
- techniques for the inspection, testing and commissioning of public lighting systems, including:
 - pre-energisation tests, including continuity and insulation resistance
 - use of specialist testing equipment
 - neutral and phase identification
 - neutral integrity
 - testing and commissioning forms and documentation
- application of specialist testing equipment, including:
 - voltage detectors
 - insulation resistance testers
 - clamp-on ammeters
 - continuity testers
 - fault indicators
- techniques for the maintenance of public lighting systems, including:
 - diagnosing faults
 - removal, repair, replacement and cleaning of public lighting and hardware
 - controlling and switching of public lighting systems
- events constituting an unplanned event or incident
- procedures for responding to an unplanned event or incident.

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 for installing and maintaining public lighting systems in a very remote community
- applicable documentation, including workplace requirements, relevant industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

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