



Australian Government

UETTD RIS53 Install and maintain power system public lighting

Release: 1

UETTDRI53 Install and maintain power system public lighting

Modification History

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

Application

This unit involves the skills and knowledge required to install, maintain, and repair power systems public lighting in the electricity supply industry (ESI).

It includes inspecting, testing and commissioning the system associated with street lighting circuit, the associated hardware, and the earthing system.

Maintenance may include work on energised low voltage (LV) overhead or underground public lighting systems, diagnosis of faults, updating relevant system data and or public lighting maintenance records. Installation will include the installation of, the associated hardware and components and, the wiring and earthing system.

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

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

Pre-requisite Unit

All competencies in the Common Unit Group must have been completed, plus all competencies in one (1) of the identified Pathway Unit Group(s).

Common Unit Group

UEENEEE101A Apply Occupational Health and Safety regulations, codes and practices in the workplace

UEENEEE102A Fabricate, assemble and dismantle utilities industry components

UEENEEE104A Solve problems in d.c. circuits

UEENEEE105A Fix and secure electrotechnology equipment

UEENEEE107A Use drawings, diagrams, schedules, standards, codes and specifications

UEENEEG101A Solve problems in electromagnetic devices and related circuits

UEENEEG102A Solve problems in low voltage a.c. circuits

UETTDREL11 Apply sustainable energy and environmental procedures

UETTDREL12 Operate plant and equipment near live electrical conductors and apparatus

UETTDREL16 Working safely near live electrical apparatus

Transmission Overhead Pathway Group

UETTDNIS54 Install and maintain poles, structures and overhead conductors and cables

UETTDRT26 Install transmission structures and associated hardware

UETTDRT27 Maintain transmission structures and associated hardware

UETTDRT29 Install and maintain transmission overhead conductors and cables

Distribution Overhead Pathway Group

UETTDROP12 Maintain overhead energised low voltage conductors and cables

UETTDNIS41 Install network infrastructure electrical equipment

UETTDNIS42 Maintain network infrastructure electrical equipment

UETTDNIS52 Install and maintain poles, structures and associated hardware

UETTDNIS54 Install and maintain poles, structures and overhead conductors and cables

UETTDNIS56 Install and maintain low voltage overhead services

Rail Traction Pathway Group

UETTDNIS52 Install and maintain poles, structures and associated hardware

UETTDNIS54 Install and maintain poles, structures and overhead conductors and cables

UETTDRT21 Install traction overhead wiring systems

UETTDRT22 Maintain traction overhead wiring systems

UETTDRT23 Install rail traction bonds

UETTDRT27 Install overhead traction components and equipment

UETTDRT28 Maintain overhead traction components and equipment

Distribution Cable Jointing Pathway Group

UETTDRCJ21 Lay ESI electrical cables

UETTDRCJ26 Install and maintain de-energised low voltage underground polymeric cables

UETTDRCJ27 Install and maintain de-energised high voltage underground polymeric cables

UETTDNIS41 Install network infrastructure electrical equipment

UETTDNIS42 Maintain network infrastructure electrical equipment

UETTDNIS55 Install and maintain low voltage underground services

Competency Field

Industry Specific Cross Discipline

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare for installation and maintenance of public lighting systems

PERFORMANCE CRITERIA

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

- 1.1** Works schedules, construction plans, drawings, workplace procedures and material lists are received and confirmed
- 1.2** Job requirements and workplace procedures are identified and communicated with relevant personnel
- 1.3** Work health and safety (WHS)/occupational health and safety (OHS), environmental and workplace procedures for installation and maintenance of public lighting systems are obtained and confirmed for the purposes of the work to be performed
- 1.4** Work is prioritised and sequenced for completion within acceptable timeframes following consultation with relevant personnel and in accordance with workplace procedures
- 1.5** Hazards are identified, WHS/OHS risks assessed and control measures identified in accordance with workplace procedures
- 1.6** Relevant work permits are obtained, understood and signed in accordance with workplace procedures
- 1.7** Plant, equipment, tools and personal protective equipment (PPE) required for work is identified, obtained and confirmed in working order
- 1.8** Worksite is prepared to minimise risk, damage to property, commerce and individuals in accordance with workplace procedures
- 1.9** Traffic management plan is confirmed as being applied in accordance with workplace procedures

2 Carry out installation and maintenance of public lighting systems

- 2.1** WHS/OHS, sustainable energy and environmental principles and practices are monitored and followed to reduce incidents in accordance with workplace procedures

- 2.2 Requirements for lifting and/or climbing and/or working at heights and the use of power tools/equipment are followed in accordance with workplace procedures
 - 2.3 Installation and maintenance of public lighting systems is completed in agreed timeframes, to quality standards and with a minimum of waste in accordance with workplace procedures
 - 2.4 Excavation/foundation construction is inspected in accordance with workplace procedures
 - 2.5 Associated hardware, fittings and control equipment are installed in accordance with workplace procedures
 - 2.6 Earthing systems and street lighting circuits are installed in accordance with workplace procedures
 - 2.7 Inspection of public lighting and associated hardware is performed in accordance with workplace procedures
 - 2.8 Maintenance, repair and/or replacement of public lighting systems are performed in accordance with job schedule and workplace procedures
 - 2.9 Unplanned events are responded to in accordance with workplace procedures
 - 2.10 Quality checks of work are undertaken in accordance with workplace procedures
- 3 Complete installation and maintenance of public lighting systems**
- 3.1 Completed work is checked against work schedule, construction plans and drawings for compliance and anomalies are reported in accordance with workplace procedures
 - 3.2 WHS/OHS and environmental incidents are reported in accordance with workplace procedures, as required
 - 3.3 Worksite is rehabilitated, cleaned up and made safe in accordance with workplace procedures
 - 3.4 Tools, equipment and surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with workplace procedures
 - 3.5 Relevant work permits are signed off and the public lighting system is returned to service in accordance with workplace procedures

- 3.6** Work records, reports and/or documentation are completed in accordance with workplace procedures

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 Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UETTDRI53A Install and maintain power system public lighting.

Links

UET Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=229bace1-b7bc-4653-9300-dffb13ecfad7>

Assessment Requirements for UETTDRIS53 Install and maintain power system public lighting

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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 work health and safety (WHS)/occupational health and safety (OHS) requirements, including the use of risk control measures
- applying sustainable energy principles and practices
- installing and maintaining public lighting poles/columns at least one (1) of the following:
 - wood
 - concrete
 - steel
 - composite
- installing or and maintaining public lighting lanterns/luminaires, including at least two (2) of the following:
 - high pressure mercury vapour
 - low pressure and high pressure sodium vapour
 - fluorescent
 - quartz-halogen
- using specialist testing equipment, including at least three (3) of the following:
 - voltage detectors*
 - insulation resistance testers
 - clamp-on ammeters
 - continuity testers
 - fault indicators
 - (* must use)
- dealing with unplanned events on at least one (1) occasion.

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:

- standards, codes, legislation, supply authority regulations, local government and/or enterprise requirements pertaining to the installation and maintenance of public lighting systems and associated equipment
- requirements for the use of enterprise construction manuals, system diagrams/plans and drawings, including:
 - street lighting circuits
 - earthing system
- types of tools and equipment used for installation and maintenance
- types and function of lanterns/luminaires/lamps, control equipment, poles and associated hardware used for street lighting, such as:
 - high pressure mercury vapour, low pressure and high pressure sodium vapour, fluorescent, quartz-halogen, wood, concrete, steel, composite, choke boxes, photo-electric cells, time switches and contactor boxes
- types of lighting systems, including:
 - overhead and underground street lighting systems
 - controlling and switching of lighting systems
- techniques for the installation of street lighting systems
- techniques for the maintenance of street lighting systems, such as:
 - diagnosing of faults; removing, repairing, replacing and cleaning of public lighting and associated hardware
- application of specific testing equipment, such as:
 - voltage detectors, insulation resistance testers, clamp-on ammeters, continuity testers and fault indicators
- techniques for the inspection, testing and commissioning of street lighting systems.

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:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, facilities, equipment and personal protective equipment (PPE) currently used in industry for installing and maintaining power system public lighting

- applicable documentation, including workplace procedures, relevant industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

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