



Australian Government

UETDRRT25 Install overhead rail traction configurations

Release: 1

UETTDRT25 Install overhead rail traction configurations

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 overhead rail traction configurations in the electricity supply industry (ESI).

It includes installation of overlaps, cross-overs, turnouts and crossing configurations by using safe working practices on or about the running line/track. It also includes isolating systems and circuits, identifying and implementing traffic management plans, issuing/accepting electrical permits inspection and checks to confirm equipment and associated hardware have been correctly installed in a safe condition to test prior to putting into service, pre-commissioning tests and updating installation data and relevant quality assurance documentation.

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 requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

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

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

Competency Field

Rail Traction

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 for installation of overhead traction configurations

- 1.1** Work 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
- 1.3** Work health and safety (WHS)/occupational health and safety (OHS), environmental and workplace procedures for the installation of overhead traction configurations 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 confirmed and signed in

accordance with workplace procedures

- 1.7** Plant, equipment, tools and personal protective equipment (PPE) required for work are identified, obtained and confirmed in working order
- 1.8** Worksite is prepared to minimise risk, damage to property, commerce and individuals in accordance with track protection officer and/or network control officer and workplace procedures
- 1.9** Traffic management plan is confirmed as being applied in accordance with workplace procedures
- 1.10** Environmental constraints applicable to work are identified and control measures applied

2 Perform installation of overhead traction configurations

- 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** Systems and circuits are checked, isolated and proved safe in accordance workplace procedures
- 2.4** Installation of overhead traction configurations are completed in agreed timeframes, to quality standards and with a minimum of waste in accordance with workplace procedures
- 2.5** Electrical equipment and associated hardware are positioned, secured and terminated/connected in accordance with job requirements and workplace procedures
- 2.6** Overhead traction configurations are installed in accordance with job requirements and workplace procedures
- 2.7** Unplanned events are responded to in accordance with workplace procedures
- 2.8** Quality checks of work are undertaken in accordance with workplace procedures

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| 3 Complete installation of overhead traction configurations | 3.1 Completed work is checked against works schedule, construction plans and drawings for compliance and anomalies are reported in accordance with workplace procedures |
| | 3.2 Worksite is rehabilitated, cleaned up and made safe in accordance with workplace procedures |
| | 3.3 Tools, equipment and surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with workplace procedures |
| | 3.4 Relevant work permits are signed off after final inspections and the system is energised, tested and returned to service in accordance with workplace procedures |
| | 3.5 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 UETTDRT25A Install overhead rail traction configurations.

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 UETTDRT25 Install overhead rail traction configurations

Modification History

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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
- using at least three (3) of the following types of system configurations:
 - overlap
 - cross-over
 - turnout crossings
 - train/tram crossing
- operating from at least one (1) of the following types of mobile plant and height equipment:
 - elevated work platform (EWP)
 - road/rail traction height access equipment
 - ladders
- obtaining equipment, tools and personal protective equipment (PPE) required for installing overhead rail traction configurations that includes at least two (2) of the following types of height and stagger measuring equipment:
 - height gauge
 - stagger gauge
 - cant gauge
- isolating systems and circuits that includes at least one (1) of the following types of testing equipment for overhead traction conductor configurations:
 - voltage detector (low voltage (LV) or high voltage (HV))
 - voltmeter
 - insulation resistance tester
 - field intensity tester
- 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:

- traction configuration principles, including:
 - types
 - purpose
 - assemblies
 - sub-assemblies
 - components
- requirements for the use of enterprise construction manuals, system diagrams/plans and drawings, including:
 - types of components
 - types and function of tools and equipment
- installation of traction configurations, including:
 - installation methods
 - measurement of tolerances
 - recording of tolerances.

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 PPE currently used in industry for installing overhead rail traction configurations
- applicable documentation, including workplace procedures, relevant industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

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