



Australian Government

UETTD RRT23 Install rail traction bonds

Release: 1

UETTDRT23 Install rail traction bonds

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 rail traction bonds in the electricity supply industry (ESI).

It includes the installation of temporary and permanent traction bonds, bonding cables and using safe working practices on or about the running line/track. It also includes isolating systems and circuits for safe working in accordance with work plans, identifying and implementing traffic management plans, issuing/accepting electrical permits, checks to confirm bonds, bonding cables and associated hardware have been correctly installed and are in a safe condition to test prior to putting into service, undertaking 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

UETTDRT23 Install and maintain poles, structures and overhead conductors and cables

Competency Field

Rail Traction

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to install traction bonds

PERFORMANCE CRITERIA

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

- 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 personnel
- 1.3** Work health and safety (WHS)/occupational health and safety (OHS), environmental and workplace procedures for the installation of traction bonds 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 to access rail corridor, understood 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 traction bonds**
 - 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 to work on in accordance with workplace procedures
 - 2.4** Installation of traction bonds and bonding cables are completed in agreed timeframes, to quality standards and with minimum waste in accordance with workplace procedures
 - 2.5** Cable and surrounds, including rail and other surfaces, are prepared for jointing and terminating in accordance with workplace procedures
 - 2.6** Traction bonds are installed and tested 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
- 3 Complete installation of traction bonds**
 - 3.1** Completed work is checked and tested against works schedule, construction plans and drawings for compliance and anomalies 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 and, the system that has undergone the installation of a traction bond/s is 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 UETTDRT23A Install rail traction bonds.

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 UETTDRT23 Install rail traction bonds

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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 rail traction bonds on at least two (2) of the following types of connecting bond cables and components, including:
 - covered or bare aluminium bonds
 - copper bonds
 - steel bonds
 - steel rail
- obtaining equipment, tools and personal protective equipment (PPE) required for installing rail traction bonds that includes using at least three (3) of the following types of tools and equipment:
 - bonding specific tools
 - crimping devices
 - thermal moulds
 - rail drill
 - bonding fittings
 - explosive power tools
 - portable hand tools
- 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 bond and cables, including:
 - permanent bonding methods

- applications for permanent bonding
- components of permanent bonds
- interface between traction and signalling circuits
- safe working procedures/practices when carrying out permanent bonding, including:
 - PPE
 - electrical and visual testing using PPE
- installation of temporary traction bonds and cables, including:
 - types and purpose of tools and equipment
 - installation and removal methods
 - testing for electrical integrity of bonds and cables
- installation of permanent traction bonds and cables, including:
 - types and purposes of tools and equipment
 - installation and removal methods
 - testing for electrical integrity of bond, cables and equipment.

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

Links

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