



Australian Government

UEERS0005 Install and maintain active level crossing equipment

Release: 1

UEERS0005 Install and maintain active level crossing equipment

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to install/maintain active level crossing equipment on rail networks.

It includes preparing and installing /maintaining active level crossing equipment. It also includes completing the installation/maintenance and testing active level crossing equipment.

Persons achieving competence in this unit will need to fulfil the applicable state/territory legislated rail safety requirements and to comply with relevant codes of practice, rules and/or guidelines.

No other licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

UEERS0013 Install and maintain train detection equipment

Competency Field

Rail Signalling

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to install/maintain active level crossing equipment

PERFORMANCE CRITERIA

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

1.1 Work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures for a given work area are identified and applied

- 1.2 Hazards are identified, WHS/OHS risks are assessed, and control measures and workplace procedures implemented in preparation for work
 - 1.3 Scope of installation/maintenance is determined from maintenance schedules, job specifications, drawings and regulatory requirements
 - 1.4 Appropriate rail safe working person/s is consulted to ensure work is coordinated effectively with others to minimise rail traffic disruption
 - 1.5 Materials needed for the installation/maintenance work are obtained in accordance with workplace procedures and checked against job specifications
 - 1.6 Tools, equipment and testing devices needed for installation/maintenance work are obtained in accordance with workplace procedures and checked for correct operation and safety
- 2 **Install/maintain active level crossing equipment**
 - 2.1 WHS/OHS risk control measures and workplace procedures for carrying out work are followed
 - 2.2 Equipment function is determined from relevant technical manuals and operating instructions to identify accessible operating requirements
 - 2.3 Equipment and components are cleaned, lubricated and adjusted to specified industry standards
 - 2.4 Equipment/component abnormalities are identified and appropriate remedial actions taken to ensure equipment conforms and performs to technical specifications
 - 2.5 Fit and maintenance are performed efficiently, without waste of materials, damage to apparatus, the surrounding environment or services using sustainable energy practices
 - 2.6 Equipment faults/damage are identified using efficient fault-finding and diagnostic techniques, including fault indicators, error codes and maintenance records
 - 2.7 Installation/maintenance are performed using appropriate tools, inspection and test equipment to ensure signalling equipment operates to required technical and operational standards

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| | 2.8 | Faulty, worn, damaged or insecure components are replaced, repaired or secured in accordance with manufacturer specifications and workplace requirements |
| | 2.9 | Methods for dealing with unplanned situations are determined on the basis of safety and specified work outcomes |
| | 2.10 | Fault-finding and repairs are carried out efficiently, without waste of materials, damage to apparatus, the surrounding environment or services using sustainable energy practices |
| | 2.11 | Equipment is inspected, tested and adjusted using appropriate test equipment and workplace procedures to ensure it operates within the specified technical standards |
| | 2.12 | Level crossing lamp alignments are carried out as part of testing and adjusting workplace procedures, as required |
| 3 | Complete active level crossing equipment installation/maintenance | |
| | 3.1 | WHS/OHS work completion risk control measures and workplace procedures are followed |
| | 3.2 | Equipment is taken out of service/brought back into use, as required, and documentation is completed in accordance with workplace procedures |
| | 3.3 | Work records and documentation are completed to ensure accurate maintenance records are maintained |
| | 3.4 | Worksite/equipment is reinstated in accordance with organisation requirements and faulty components are tagged, recorded and dispatched for repair/replacement |

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 UEE Electrotechnology Training Package

Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEENEEN107A Install and maintain active level crossing equipment.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

Assessment Requirements for UEERS0005 Install and maintain active level crossing equipment

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:

- interpreting specifications correctly
- using appropriate fault-finding techniques
- maintaining electrically-operated level crossing equipment to operational requirements
- organising work to minimise road and rail traffic disruptions
- using tools correctly
- following relevant codes of practice, work health and safety (WHS)/occupational health and safety (OHS) and environmental protection procedures and requirements
- completing relevant technical reports, records and documentation
- dealing with unplanned events
- applying rail safe working practices and relevant industry standards, codes and rail safety regulations
- applying relevant WHS/OHS requirements, including:
 - implementing workplace procedures and practices
 - using risk control measures
- applying sustainable energy principles and practices
- completing the installation/maintenance of active level crossing equipment
- installing/maintaining active level crossing equipment
- preparing to install/maintain active level crossing equipment.

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:

- active level crossing equipment installation and maintenance, safe working practices and relevant standards, codes and regulations, including:
 - rail signalling and active level crossing equipment
 - equipment and their components encompassing:
 - flashing lights

- audible warning devices
- boom gate/barrier
- pedestrian gate/barrier
- relay operation
- crossing predictor
- operation alarm monitoring
- traffic light interfaces
- operating principles and parameters encompassing:
 - single line control
 - double line control
 - special controls
 - processor controls
 - remote alarm monitoring
 - failure modes
 - emergency operation
 - interpreting circuits diagrams to evaluate correct operation and relationship to other signalling circuits
 - correct operation in accordance with control and locking tables
- servicing procedures encompassing:
 - maintenance documentation
 - coordination/planning sequence
 - operational test procedures
 - scheduled/preventative maintenance
 - unscheduled/corrective maintenance
 - certification of active level crossing equipment (commission/decommission)
 - certifying procedures applicable for compliance with rail operator and/or enterprise standards
- rail safe systems of working
- safety management system
- safe working practices and relevant standards, codes and regulations
- relevant manufacturer specifications
- relevant job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant workplace policies and procedures, including rail transport operator safety management system.

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 suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in suitable simulated workplace operational situations that replicate 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
- resources that reflect current industry practices in relation to installing/maintaining active level crossing equipment
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>