



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **UETDRRT29A Operate rail road traction height access equipment**

**Release: 1**

## **UETDRRT29A Operate rail road traction height access equipment**

### **Modification History**

Not applicable.

### **Unit Descriptor**

#### **Unit Descriptor**

#### **1) Scope:**

##### **1.1) Descriptor**

This Competency Standard Unit covers the operation and use of road rail traction height access equipment to install and maintain the overhead traction systems. It includes the pre-operational inspection, servicing of plant/equipment and the undertaking of safe working practices on or about the running line/track. It also encompasses the isolation of systems and circuits for safe working according to work plans and the correct positioning of road signs, barriers and/or warning devices.

### **Application of the Unit**

#### **Application of the Unit 2)**

This Competency Standard Unit is intended to augment formally acquired competencies. It is suitable for employment-based programs under an approved contract of training.

### **Licensing/Regulatory Information**

#### **License to practice 3)**

The skills and knowledge described in this unit may require a licence/registration to practice in the work place subject to regulations for undertaking of electrical work. Practice in workplace and during training is also subject to regulations directly related to Occupational Health and Safety, electricity/telecommunications/gas/water industry

**License to practice****3)**

safety and compliance, industrial relations, environmental protection, anti discrimination and training.  
Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

**Pre-Requisites****Prerequisite Unit(s)****4)****Competencies****4.1)**

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

Where pre-requisite pathways have been identified. All competencies in the Common Unit Group must be have been completed.

## Common Unit Group

Unit Code	Unit Title
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
UETTDREL11A	Apply sustainable energy and

**Prerequisite Unit(s)** 4)

environmental procedures

UETTDREL12A Operate plant and equipment near live electrical conductors and apparatus

UETTDREL16A Working safely near live electrical apparatus

UETTD RIS52A Install and maintain poles, structures and associated hardware

UETTD RIS54A Install and maintain poles, structures, overhead conductors and cables

UETTD RRT21A Install traction overhead wiring systems

UETTD RRT22A Maintain traction overhead wiring systems

UETTD RRT27A Install overhead traction components and equipment

UETTD RRT28A Maintain overhead traction components and equipment

**Literacy and numeracy skills** 4.2)

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 “Literacy and Numeracy”.

Reading 3      Writing 3      Numeracy 3

**Employability Skills Information****Employability Skills** 5)

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged

**Employability Skills**

5)

will assist in identifying Employability Skill requirements.

**Elements and Performance Criteria Pre-Content**

6) Elements describe the essential outcomes of a competency standard unit  
 Performance Criteria describe the required performance needed to demonstrate achievement of the element.  
 Assessment of performance is to be consistent with the Evidence Guide.

**Elements and Performance Criteria****ELEMENT****PERFORMANCE CRITERIA**

1	Prepare to operate road rail traction height access equipment	1.1	Works schedule(s), including drawings, plans, requirements, established procedures, and material lists, are received, analysed and confirmed, if necessary, by site inspection.
		1.2	Relevant requirements and established procedures for the work are communicated to all personnel and identified for all work sites.
		1.3	OHS policies and procedures related to requirements and established procedures for the operation of road rail traction height access equipment are obtained and confirmed for the purposes of the work to be performed and communicated.
		1.4	Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures.
		1.5	Hazards are identified; OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear according to established procedures.
		1.6	Relevant work permits are obtained to access and perform work according to requirements and/or

ELEMENT	PERFORMANCE CRITERIA
	established procedures.
	1.7 Resources including personnel, equipment, tools and personal protective equipment required for the job are obtained and confirmed in working order.
	1.8 Pre-operational inspection servicing of plant/equipment is carried out as per established procedures.
	1.9 Relevant personnel at worksite are confirmed current in CPR, First Aid, and other rescue procedures and other related work procedures according to requirements.
	1.10 Liaison and communication issues with other authorised personnel, authorities, clients and land owners are resolved to carry out work where necessary.
	1.11 Site is prepared according to the work schedule and to minimise risk and damage to property, commerce, and individuals in accordance with established procedures.
	1.12 Personnel participating in the work, including plant operators and contractors, are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures.
	1.13 Rail/road signs, barriers and warning devices are positioned in accordance with requirements.
	1.14 Environmental constraints applicable to work are identified and control measures applied.
2 Carry out the operation of road rail traction height access equipment	2.1 OHS and sustainable energy principles and practices to reduce the incidents of accidents and minimise waste are monitored and followed in accordance with requirements and/or established procedures.
	2.2 Lifting, climbing, working aloft, and use of power tools/equipment, techniques and practices are safely followed and, currency according to

**ELEMENT****PERFORMANCE CRITERIA**

- requirements confirmed.
- 2.3 Essential knowledge and associated skills are applied in the safe operation of road rail traction height access equipment to ensure completion in an agreed timeframe and, to quality standards with a minimum of waste according to requirements.
- 2.4 Road rail traction height access equipment is operated as per requirements and established procedures.
- 2.5 Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures.
- 2.6 Unplanned events during the operation of road rail traction height access equipment are undertaken within the scope of established procedures.
- 2.7 Known solutions to a variety of problems are applied using acquired essential knowledge and associated skills.
- 2.8 Ongoing checks of quality of the work are undertaken in accordance with instructions and established procedures.
- 3 Complete the operation of road rail traction height access equipment
- 3.1 Post operational checking and servicing of plant and equipment is carried out for conformance with requirements/established procedures and anomalies reported in accordance with established procedures.
- 3.2 Work site is rehabilitated, cleaned up and made safe in accordance with established procedures.
- 3.3 Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures.
- 3.4 Relevant work permit(s) are signed off and, the road rail traction height access equipment is returned in accordance with established

**ELEMENT**

**PERFORMANCE CRITERIA**

procedures.

- 3.5 Works completion records and reports, are processed and appropriate personnel notified.



## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

**8) Essential Knowledge and Associated Skills (EKAS):** This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge of operating road rail traction height access equipment has been acquired.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

**KS01-TRT29A** Road/rail traction height access equipment

Evidence shall show an understanding of the operation of road rail and rail/tram traction height access equipment used in the installation and maintenance of overhead traction system to an extent indicated by the following aspects:

**T1** Operator requirements encompassing:

- Pre-operational checks
- Recording procedures e.g. logbook

**T2** Road/rail traction height access equipment operation encompassing:

- Equipment characteristics, capabilities and limitations
- Prestart requirements
- Operation procedure
- Basic problem solving equipment faults
- Safe working procedures when mechanical failure occurs
- Use of appropriate communication systems
- Permit to work systems and isolation procedures

**T3** Safe working and safety requirements when using road/rail traction height access equipment

**T4** Procedures for effective traffic management

**T5** Electrical safety requirements prior to operating equipment under live overhead equipment and adjacent to or in the vicinity of live overhead equipment

**T6** Emergency procedures in the event of an electrical incident/accident

**T7** Emergency procedures in the event of a safe working/road traffic incident/accident

**T8** OHS and EPA requirements in the context of Commonwealth/State/Territory legislative requirements

**T9** Rescue a person from a height access equipment encompassing:

- Methods for rescuing a person
- Methods for rescuing a person from a disabled height access equipment
- Methods for rescuing an incapacitated person from a height access equipment
- Methods for rescuing a person in contact with live overhead equipment

## Evidence Guide

### EVIDENCE GUIDE

9) This provides essential advice for assessment of the competency standard unit and must be read in conjunction with the Performance Criteria and the range statement of the competency standard unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all component parts of this unit and, performed in accordance with the Assessment Guidelines of this Training Package.

#### Overview of Assessment

##### 9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and, Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment

instruments are included for Assessors in the Assessment Guidelines of this Training Package.

**Critical aspects of evidence required to demonstrate competency in this unit** 9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the “Assessment Guidelines – UET12”. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range; and
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and range; and
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner’s performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment; and
  - Demonstrate an appropriate level of employability skills; and
- Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures; and
- Demonstrated performance across a representative range of contexts from the prescribed items below:

<b>Range of tools/equipment/materials/procedures/workplaces/other variables</b>
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Group No	The minimum number of items on which skill is to be demonstrated	Item List
A	All of the following:	Log books Work plan
B	At least one of the following:	Elevated work platforms in the performance of work associated with rail traction.  Road rail platform vehicle in the performance of work associated with rail traction.
C	At least one occasion	Dealing with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items.

### Context of and specific resources for assessment 9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual operation of road rail height access equipment.

In addition to the resources listed above, in context of and specific resources for assessment, evidence should show demonstrated competency operating road rail traction height access equipment,

with different structural/construction types and method and in a variety of environments.

**Method of assessment**

**9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 “Assessment Guidelines”.

Note:

Competent performance with inherent safe working practices is expected in the Transmission, Distribution and Rail Traction Industry. This requires that the specified essential knowledge and associated skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

**Concurrent assessment and relationship with other units**

**9.5)**

For optimisation of training and assessment effort, competence in this unit may be assessed concurrently with the following units:

UETDRRT22A Maintain traction overhead wiring systems

UETDRRT28A Maintain overhead traction components and equipment

## Range Statement

### RANGE STATEMENT

**10)** This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to the operation and use of road rail traction height access equipment as it relates to installation and maintenance of the overhead traction systems, including any pre-operational inspection and servicing of plant/equipment.

Plant may include elevating work platforms, winches, specialist tension string equipment, cable trailers, rail and road mounted overhead vehicles and vehicle mounted cranes. Excluding rail bound overhead wiring consist.

Equipment operation includes the horizontal and vertical operation of the work platform, pre-operational checks, obtaining appropriate relevant track or road authorities, observing relevant statutory electrical and mechanical clearances, and communication protocol between relevant personnel.

Operating environment may include off-track, on-track in the vicinity of live and dead traction and distribution equipment, live line working and within an operational road, rail or tram traffic environment.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section 1 of this volume and form an integral part of the Range Statement of this unit:

- Appropriate and relevant persons (see Personnel)
- Appropriate authorities
- Appropriate work platform
- Assessing risk
- Assessment
- Authorisation
- Confined space
- Diagnostic, testing and restoration
- Documenting detailed work events, record keeping and or storage of information
- Drawings and specifications
- Emergency
- Environmental and sustainable energy procedures
- Environmental legislation
- Environmental management documentation
- Established procedures
- Fall prevention
- Hazards

**RANGE STATEMENT**

- Identifying hazards
- Inspect
- Legislation
- MSDS
- Notification
- OHS practices
- OHS issues
- Permits and/or permits to work
- Personnel
- Quality assurance systems
- Requirements
- Testing procedures
- Work clearance systems

**Unit Sector(s)**

Not applicable.

**Competency Field**

**Competency Field**            **11)**  
Rail Traction Units