



Australian Government

Department of Education, Employment and Workplace Relations

UETTD RIS50A Coordinate power system permit procedures

Release: 1

UETTDRIS50A Coordinate power system permit procedures

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This Competency Standard Unit covers the coordination of work procedures that require the issue of electrical permits to work and other permits for working on major parts of the electrical network. It encompasses the analysis and coordination of all work activities planned to be undertaken within more or less the same time timeframe to ensure that: the organisation's work safety and statutory requirements are complied with; the extent of power interruption, and hence inconvenience to customers, is minimised; and the effective utilisation of available resources, both from the organisation and from its contractors to ensure all planned activities are timely completed to specified standards and requirements.

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

License to practice**3)**

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 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 plus all the competencies in one (1) of the identified Pathway Unit Group(s):

Transmission Overhead

Distribution Overhead

Rail Traction

Distribution Cable Jointing

Electrical

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

Prerequisite Unit(s)**4)**

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
UETTDREL16A	Working safely near live electrical apparatus

Transmission Overhead Pathway Group

Unit Code	Unit Title
UETTDREL11A	Apply sustainable energy and environmental procedures
UETTDREL12A	Operate plant and equipment near live electrical conductors and apparatus
UETTDRI544A	Perform HV field switching operation to a given schedule
UETTDRI54A	Install and maintain poles, structures, overhead conductors and cables
UETTDRT26A	Install transmission structures and associated hardware
UETTDRT27A	Maintain transmission structures and associated hardware
UETTDRT29A	Install and maintain transmission overhead conductors and cables

Distribution Overhead Pathway Group

Unit Code	Unit Title
UETTDREL11A	Apply sustainable energy and environmental procedures

Prerequisite Unit(s)**4)**

UETTDNDP12A	Maintain overhead energised low voltage conductors and cables
UETTDREL12A	Operate plant and equipment near live electrical conductors and apparatus
UETTDNIS41A	Install network infrastructure electrical equipment
UETTDNIS42A	Maintain network infrastructure electrical equipment
UETTDNIS43A	Perform low voltage field switching operation to a given schedule.
UETTDNIS52A	Install and maintain poles, structures and associated hardware
UETTDNIS54A	Install and maintain poles, structures, overhead conductors and cables
UETTDNIS56A	Install and maintain low voltage overhead services

Rail Traction Pathway Group

Unit Code	Unit Title
UETTDREL11A	Apply sustainable energy and environmental procedures
UETTDREL12A	Operate plant and equipment near live electrical conductors and apparatus
UETTDNIS52A	Install and maintain poles, structures and associated hardware
UETTDNIS54A	Install and maintain poles, structures, overhead conductors and cables
UETTDNRT21A	Install traction overhead wiring systems

Prerequisite Unit(s)**4)**

UETTDRT22A	Maintain traction overhead wiring systems
UETTDRT23A	Install rail traction bonds
UETTDRT27A	Install overhead traction components and equipment
UETTDRT28A	Maintain overhead traction components and equipment
UETTDRT30A	Perform to a given schedule rail traction switching operations
Distribution Cable Jointing Pathway Group	
Unit Code	Unit Title
UETTDRCJ21A	Lay ESI electrical cables
UETTDRCJ26A	Install and maintain de-energised low voltage underground polymeric cables.
UETTDRCJ27A	Install and maintain de-energised high voltage underground polymeric cables.
UETTDREL11A	Apply sustainable energy and environmental procedures
UETTDREL12A	Operate plant and equipment near live electrical conductors and apparatus
UETTDRI541A	Install network infrastructure electrical equipment
UETTDRI542A	Maintain network infrastructure electrical equipment
UETTDRI543A	Perform low voltage field switching operation to a given schedule.
UETTDRI55A	Install and maintain low voltage underground services

Electrical Pathway Group

Prerequisite Unit(s)**4)**

Unit Code

Unit Title

UEENEEE137A

Document and apply measures to control OHS risks associated with electrotechnology work

UEENEEG006A

Solve problems in single and three phase low voltage machines

UEENEEG033A

Solve problems in single and three phase electrical apparatus and circuits

UEENEEG063A

Arrange circuits, control and protection for general electrical installations

UEENEEG106A

Terminate cables, cords and accessories for low voltage circuits

UEENEEG108A

Trouble-shoot and repair faults in low voltage electrical apparatus and circuits

UEENEEG109A

Develop and connect electrical control circuits

UEENEEK142A

Apply environmentally and sustainable energy procedures in the energy sector

UETTDRIS67A

Solve problems in energy supply network equipment

UETTDRSB39A

Perform power system substation switching operation to a given schedule

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 4 Writing 4 Numeracy 4

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 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/plan to coordinate permit procedures	1.1 Works schedule(s), including drawings, plans, requirements, established procedures, and material lists, are obtained, analysed, if necessary, by site inspection and the extent of the preparation of the work determined for planning and coordination. 1.2 Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes, to a quality standard and in accordance with established procedures. 1.3 Relevant requirements and established procedures for the work are communicated to all personnel and identified for all work sites.

ELEMENT**PERFORMANCE CRITERIA**

- | | |
|---|--|
| | <p>1.4 Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear, to ensure safe systems of work are followed and according to established procedures.</p> <p>1.5 Relevant work permits are secured to coordinate the performance of work according to requirements and/or established procedures.</p> <p>1.6 Resources including personnel, equipment, tools and personal protective equipment required for the job are identified, scheduled and applied in the coordination of permit procedures according to established procedures.</p> <p>1.7 Clients/customers are provided with possible solutions and/or options within the scope, acceptable cost and requirements.</p> <p>1.8 Liaison and communication issues with other/authorised personnel, authorities, clients and land owners are resolved and activities coordinated to carry out work.</p> |
| <p>2 Carry out the co-ordination of permit procedures</p> | <p>2.1 OHS and sustainable energy principles and practices to reduce the incidents of accidents and minimise waste are monitored and actioned in accordance with requirements and/or established procedures.</p> <p>2.2 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.</p> <p>2.3 Remedial actions are taken to overcome any shortfalls encountered in the work schedule according to requirements and/or established procedures.</p> <p>2.4 Co-ordination of permit procedures is carried out, in accordance with the work schedule and requirements and/or established procedures.</p> <p>2.5 Essential knowledge and associated skills are</p> |

ELEMENT**PERFORMANCE CRITERIA**

- applied in the safe co-ordination of permit procedures to ensure completion in an agreed timeframe and, to quality standards with a minimum of waste according to requirements.
- 2.6 Solutions to non-routine problems are identified and actioned using acquired essential knowledge and associated skills according to requirements.
- 2.7 Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality like outcome is achieved for the client/customer and to a community/industry standard.
- 3 Complete the co-ordination of permit procedures
- 3.1 Work undertaken is checked against works schedule for conformance with requirements, anomalies reported and solutions identified in accordance with established procedures.
- 3.2 Relevant work permit(s) are signed off and, plant is returned to service and advised to client/customer in accordance with requirements.
- 3.3 Accidents and/or injuries are reported and followed up in accordance with requirements/established procedures.
- 3.4 Works completion records, reports, as installed /modified drawing(s) and/or documentation and information are confirmed, processed and appropriate personnel notified.

Required Skills and Knowledge

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 has been acquired of coordinating permit procedures.

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

KS01-TIS50A Power system permit procedures

Evidence shall show an understanding of the coordination of power system permit procedures to an extent indicated by the following aspects:

T1 Co-ordinating access authority procedures encompassing:

- Specific enterprise processes, policies and procedures to be followed
- Processes of consultation, negotiation and co-ordination - clear and concise instructions and information, methods for the encouragement of feedback and contributions of information and ideas, responsibilities of members of the team.
- Techniques in analysing, planning, co-ordination and organising work for a safe outcome and according to statutory requirements and regulations
- Techniques in the effective utilisation of available resources
- Techniques in the development of an access authority/permit and/or access authority/permit issuing procedures
- Techniques in facilitating and co-ordinating the delivery and issuing of access authorities
- Techniques in gathering, collating and confirming data on different worksites - electrical network diagrams for the specific work site, earth access authorities, safe working area, work to be carried out in confined space or in hazardous environment, specific outsourcing procedures, specific hazard identification, risk classification and management procedures, regulatory requirements such as Occupational Health and Safety and electrical safety.
- Techniques in the receiving and co-ordinating the cancellation of access authorities in readiness for restoration
- Methods of conducting audits on correct access authority procedures
- Process of issuing of other access authorities for work permits - working in confined space, if required, co-ordination of access authorities, engaging and briefing contractors on electrical and other work
- Issue and receipt of operating agreements

T2 High voltage switching principles encompassing:

- Standards, codes, legislation, supply authority regulations and or enterprise requirements applicable to switching of high voltage to a given schedule
- Requirements for the use of manuals, system diagrams/plans and drawings - types, characteristics and capabilities of electrical apparatus, use, characteristics and capabilities of specialised tools and testing equipment, network interconnectors source of possible backfeed
- Role of the HV switching operator
- Operational forms, access authorities and permits associated with HV switching - types of operational forms, access authorities and permits, purpose and procedure

for operational forms, access authorities and permits.

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Use and operation of equipment associated with HV overhead and substation equipment - test instruments, sticks, interrupters, arc stranglers.

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit of competency and must be read in conjunction with the Performance Criteria and the range statement of the unit of competency 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:

**Range of
tools/equipment/materials/procedures/workplaces/other
variables**

Group No	The minimum number of items on which skill is to be demonstrated	Item List
A	All of the following:	Development of a permit schedule and/or permit issuing procedures. Facilitate and coordinate the delivery and issuing of permits.
B	Gather, collate and confirm data on different worksites relevant to:	Electrical network diagrams for the specific work site. Earth permits. Safe working area. Work to be carried out in confined space or in hazardous environment. Specific outsourcing procedures. Specific hazard identification Risk classification and management procedures. Regulatory requirements such as Occupational Health and Safety and electrical safety.
C	All of the following:	Receive and coordinate the cancellation of permits in readiness for restoration. Conduct audits permit correctness procedures.
D	At least two of the following:	Issue of other work permits such as working in confined

		space, if required. Co-ordination of permits. Engaging and briefing contractors on electrical and other work permits.
E	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 coordinate permit procedures.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency working at realistic heights above ground i.e. above 3 metres, in limited spaces, 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 Industry to which this Competency Standard Unit

applies. 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)

There are no concurrent assessment recommendations for this unit.

Range Statement

RANGE STATEMENT

10) This relates to the unit of competency 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 coordination of permit procedures and may include but not be limited to the following.

Enterprise/organisational specific co-ordination could involve:

Electrical network diagrams, electrical permit to work system, other work permit system such as work in confined space or in hazardous environment, outsourcing procedures, hazard identification, risk classification and management procedures.

Regulatory requirements include Occupational Health and Safety and electrical safety

Computer based systems can be used in the generation of work schedules, programs and/or resource allocation.

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
- Assessing risk
- Assessment
- Authorisation
- Documenting detail 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
- Hazards
- Identifying hazards
- Inspect
- Legislation
- Notification.
- OHS practices
- OHS issues
- Permits and/or permits to work
- Personnel

RANGE STATEMENT

- Quality assurance systems
- Requirements
- Work clearance systems

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Industry Specific Cross-Discipline Units