



Australian Government

UEENEEE137A Document and apply measures to control OHS risks associated with electrotechnology work

Release 3

UEENEEE137A Document and apply measures to control OHS risks associated with electrotechnology work

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

1)

1.1) Descriptor

This unit covers identifying occupational health and safety hazard and risks and documenting control measures. It encompasses identifying workplace hazards, assigning levels of risk, developing control measures to eliminate and/or mitigate risks, reviewing risk control measures and maintaining documentation of hazards, risk control measures and their application in accordance with compliance procedures.

Application of the Unit

Not Applicable

Licensing/Regulatory Information

1.2) License to practice

During Training: Competency development activities are subject to regulations directly related to licencing, occupational health and safety and where applicable contracts of training such as apprenticeships.

In the workplace: The application of the skills and knowledge described in this unit require a license to practice in the workplace where work is carried out on electrical equipment or installations which are designed to operate at voltages greater than 50 V a.c. or 120 V d.c.

Other conditions may apply under State and Territory legislative and regulatory requirements.

Pre-Requisites

Prerequisite Unit(s) 2)

2.1) Competencies

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

UEENEEE10 1A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
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Employability Skills Information

Employability Skills

3)

This unit contains Employability Skills

The required outcomes described in this competency standard unit contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this competency standard unit is packaged will assist in identifying Employability Skill requirements.

Application of the Unit

4)

This unit addresses information, processes and techniques for the application of occupational health and safety specific to working with electrotechnology and is essential for employees without managerial or supervisory responsibilities

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a unit of competency 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 Identify and document hazards and risks.

1.1 Hazards are identified the appropriate persons involved and in accordance with compliance procedures.

Note:

Typically this will relate to such things as:
The type of job, Electrical conditions, Energy levels, Radiation levels, Toxic substances, Airborne particles, Pressure discharge, Explosive atmosphere, Work-site location, General work-site conditions, Specific work location, Moving parts, Tools and equipment, Workers

ELEMENT

PERFORMANCE CRITERIA

		competence and/or capacity and/or personal effects
	1.2	Risks associated with identified hazards are determined in consultation with others and documented in accordance with compliance procedures.
	1.3	Provision is made to accommodate changes to documentation should unforeseen hazards be identified.
2	Assign levels of risk and develop and document control measures.	
	2.1	Level of risk is assigned for each identified hazard in accordance with the regulations and following compliance procedures.
	2.2	Control measures are developed for hazard, level of risk and activity to eliminate and/or mitigate the risk following compliance procedures.
	2.3	Hazard, level of risk and control measures are agreed to and documented in consultation with all involved in accordance with compliance procedures.
3	Monitor and review the control measures.	
	3.1	Documented control measures are made available for reference by all involved with the work.
	3.2	Control measures are modified where required in consultation with all involved with the work in accordance with compliance procedures.
	3.3	Documentation of hazards, risk control measures and their application are filed in accordance with compliance procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

7) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and documenting occupational hazards and risks in electrical.

The knowledge and skills shall be contextualised to current industry standards, technologies and practices.

KS01-EE137A

Risks and control measures for dealing with

workplace hazards

Evidence shall show an understanding of risks and control measures for dealing with workplace hazards to an extent indicated by the following aspects:

T1 Risk management and assessment of risk encompassing:

- Principle and purpose of risk management, and
- Processes for conducting a risk assessment
- Hazard identification by job analysis and work-site inspections
- Recording hazards and assessing the risk.

T2 Hazards and risks and control measures in working on construction sites encompassing:

- Hazards include manual and mechanical handling; working at heights; working in confined spaces; noise; dusts, gases, chemicals.

T3 Hazards associated with extra-low voltage, low-voltage and high-currents encompassing:

- Arrangement of power distribution and circuits in electrical installations
- Parts of an electrical system and equipment that operate at low-voltage and extra-low voltage,
- Parts of an electrical system and equipment where high-currents are likely.

T4 Hazards and risks and control measures associated with high-voltage encompassing:

- Parts of an electrical system and equipment that operate at high-voltage,
- The terms 'touch voltage', 'step voltage', 'induced voltage' and 'creepage' as they relate to the hazards of high-voltage
- Control measures used for dealing with the hazards of high-voltage.

T5 Hazards and risks and control measures in working with low voltage equipment encompassing:

- Risks in modifying electrical installations, fault finding, maintenance and repair.

REQUIRED SKILLS AND KNOWLEDGE

- Control measures before, while and after working on electrical installations, circuits or equipment.
- Isolation and tagging-off procedures.
- Risks and restrictions in working live.
- Control measures for working live.

T6 Hazards and risks and control measures associated with harmful, devices, materials, gases, dusts and airborne contaminant encompassing:

- Harmful devices: gas touches, welding equipment, laser equipped devices and the like.
- Harmful materials: gases (refrigerants) and some industrial cleaning agents, fibres of optical cable, thermal insulation
- Harmful airborne contaminants: fibres of thermal insulation, fibres of optical cable, fibrous cement materials, asbestos and other fibres in insulation materials.

T7 Determine the degree of the risk encompassing:

- The three recognised levels of risk are:
 - High (potential to kill or permanent disability);
 - Medium (potential to cause an injury or illness of a permanent nature);
 - Low (potential to cause a cause minor injury requiring first aid but no permanent disability)

T8 Use control measures to eliminate or control the risk encompassing:

- Hierarchy of control measures are:
 - eliminate the risk by discontinuing the activity.
 - control the risk by redesigning the equipment
 - adopt administrative procedures
 - use of personal protective equipment.
- Control measures are formally documented in Job Safety Analysis (JSAs) or Safe Work Methods (SWMs).

T9 Engaging in monitoring and reviewing processes to ensure control measures remain valid.

Evidence Guide

EVIDENCE GUIDE

9) The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of the 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-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 accordance with industry and regulatory policy.

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. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday 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 practised. 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 must 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 - UEE07'. Evidence shall also

EVIDENCE GUIDE

comprise:

- A representative body of work performance 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 statement
 - Apply sustainable energy principles and practices as specified in the performance criteria and range statement
 - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
 - Demonstrate an appropriate level of skills enabling employment
 - Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
 - Document and applying measure to control occupational health and safety risks in electrotechnology work as described in 8) and including:
 - A Identifying with appropriate person and in accordance with compliance procedures.
 - B Determining the risk associated with identified hazards
 - C Assigning the risks and developing and documenting control measures.
 - D Reviewing and modifying control measures where required.
 - E Recording activities.
 - F Dealing with unplanned events

EVIDENCE GUIDE

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 work as prescribed in this unit.

These should be used in the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions for assessment must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to documenting occupational hazards and risks in electrical.

Method of assessment

9.4)

This 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 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 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 other related units making up a qualification or possible skill clusters.

Components of this unit are also included in the critical aspects of evidence of all units to help ensure the appropriate level of responsibility for safety has been acquired.

Range Statement

RANGE STATEMENT

8) This relates to the 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 unit shall be demonstrated in relation to electrotechnology work functions, including but limited to: installation, testing, inspection, fault finding, maintenance or development work functions covering:

- Relevant occupational health and safety legislation, regulations and codes of practice related to devices and systems and hazards present in residential, commercial and industrial workplaces.
- Accepted industry work procedures and the specific safety procedures and work instructions for a particular workplace or organisation.

In any of the following disciplines:

- Appliances
- Business equipment
- Computers
- Data Communications
- Electrical
- Electrical Machines
- Electronics
- Fire protection
- Instrumentation and Control
- Refrigeration and Air Conditioning
- Renewable / sustainable energy
- Security technology
- Energy Supply, Transmission and Distribution Networks

RANGE STATEMENT

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

Unit Sector(s)

Not Applicable

Competency Field

2.2) Literacy and numeracy skills

Participants are best equipped to achieve competency in 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
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Custom Content Section

Competency Field	5)
	Electrotechnology