Australian Government

MEM13017 Apply safety practices, procedures and compliance standards associated with licensed electrical work

Release: 3

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Modification History

Release 3. Prerequisite units update

Release 2. Minor adjustments to reflect ERAC requirements for electrician licensing and revision of Essential Performance Capabilities

Release 1. New unit

Application

This unit of competency has been developed for Engineering Tradesperson – industrial electrician apprenticeship training and the recognition of trade-level skills in working safely with electrical installations and equipment; following work health and safety (WHS) systems and procedures; and the scope, application and fundamental principles of AS/NZS 3000:2007 Electrical installations (known as the Australian/New Zealand Wiring Rules).

It covers knowledge of the application of WHS regulations; procedures for identifying and mitigating electrical hazards; supervision requirements applying to apprentices and trainees; following documented safe work methods, including safe isolation procedures: and application of compliance standards to ensure electrical installations and equipment are safe to use.

This unit covers the skills and knowledge required to meet the Electrical Regulatory Authorities Council (ERAC).

Essential Performance Capabilities (EPCs):

- EPC 45 – Demonstrate the knowledge and practices that are essential for working safely with electrical equipment and tools, for safe manual handling, working safely at heights and in confined spaces. Knowledge of testing and tagging procedures to AS 3760.
- EPC 55 – Demonstrate knowledge and application of electricity generation systems and electricity converters and the requirements of AS/NZS 3000 Wiring Rules for stand-alone and grid connected systems. Basic knowledge of battery storage systems and uninterruptible power supplies.

And

Essential Performance Capability (EPC) classified as 'critical':

- EPC 10 – Demonstrate an understanding of the fundamental safety principles of AS/NZS 3000 Part 1. Knowledge of hierarchy of standards. Nomative/informative text.
- EPC 31 – Demonstrate the knowledge and skill to perform effective isolation of any equipment, including switch and lock off, circuit isolation, equipment testing and tag out procedures, including capacitor banks.
- EPC 43 – Demonstrate understanding of the requirements for personal safety in the workplace and application of safety practices.

Some jurisdictions require the holder of this unit to be licensed or certified and users should check with the relevant authorities.

Band: A

Unit Weight: 2

Pre-requisite Unit

MEM13015	Work safely and effectively in manufacturing and engineering

Competency Field

Work health and safety

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Follow WHS systems and procedures	1.1 Follow standard operating procedures (SOPs)
	1.2 Comply with WHS requirements at all times, including appropriate risk control measures
	1.3 Use appropriate personal protective equipment (PPE) in accordance with SOPs
	1.4 Identify job requirements from specifications, drawings, job sheets or work instructions
	1.5 Isolate and tag circuits and equipment in accordance with procedures, where required
	1.6 Ensure all tools and equipment are checked for safety in accordance with procedures and regulatory requirements
	1.7 Follow established safety rules before beginning work on electrical wiring and equipment
	1.8 Determine and implement the level of supervision required appropriate to the type of electrical work and the level of the apprentice's and/or trainee's training
	1.9 Follow safe work procedures when working at heights

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	and in confined spaces
2. Perform emergency first aid	2.1 Assess situation to identify points of danger to the injured person and potential rescuer
	2.2 Rescue/recover injured person or provide assistance to injured person in accordance with recognised standards/procedures
	2.3 Make contact with the appropriate medical and rescue authorities
	2.4 Record details of first aid given
3. Identify codes of practice, standards and organisations that have an impact on the work of licensed electricians	3.1 Identify the codes of practice that apply to work carried out by licensed electricians
	3.2 Apply the fundamental safety procedures as outlined in AS/NZS 3000:2007 Electrical Installations (known as the Australian/New Zealand Wiring Rules) Part 1
	3.3 Identify the other relevant standards that apply to work carried out by licensed electricians
	3.4 Identify other regulatory requirements that apply to work carried by licensed electricians
	3.5 Identify reference compliance standards for electricity generation systems and electricity converters
	3.6 Identify organisations that have an impact on the roles and responsibilities of licensed electricians

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory requirements include:

- AS/NZS 3000:2007 Electrical installations (known as the Australian/New Zealand Wiring Rules)
- AS/NZS 3008.1.1:2009 Electrical Installations – Selection of cables – Cables for alternating voltages up to and including 0.6/1 kV – typical Australian installation conditions
- AS/NZS 3017:2007 Electrical installations – Verification guidelines
- AS/NZS 3760:2010 In-service safety inspection and testing of electrical equipment
- Electrical Safety Act (various states/territories)
- electrical regulations (various states/territories)
- local service rules
- the Building Code of Australia

Compliance standards include:

- AS/NZS 4777:2005 (series), Grid connected inverter systems
- AS/NZS 5033:2014 Installation and safety requirements for photovoltaic (PV) arrays
- AS/NZS 3010:2005 Electrical installations – Generating sets
- AS/NZS 4509 (series), Stand-alone power systems
- AS 3011.1:1992 Electrical installations – Secondary batteries installed in buildings

Organisations include:

- Electrical Regulatory Authorities Council (ERAC)
- Electrical Safety Office or equivalent (various states/territories)
- Electrical Contractor Association or equivalent (various states/territories)
- energy supply authorities
- local TAFE

Safe working practices include:

- demonstration of safe working practices and installation in accordance with industry established safe and sound practices

Unit Mapping Information

Release 2. Equivalent. Minor adjustments to reflect ERAC requirements for electrician licensing and revision of Essential Performance Capabilities.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2