

<b>Title</b>	<b>Demonstrate knowledge of fundamental electrical safety in the workplace</b>		
<b>Level</b>	<b>2</b>	<b>Credits</b>	<b>2</b>

<b>Purpose</b>	<p>This unit standard is part of a suite of standards that can be used for introductory safety training for any person intending to work at a site where there are potential electrical hazards.</p> <p>This unit standard also contributes to the EWRB requirements for award of the Trainee Limited Certificate (TLC), which all people training towards an electrical licence must hold. Requirements to meet the TLC must be completed within the first three months of an apprenticeship or traineeship.</p> <p>People credited with this unit standard are able to demonstrate knowledge of:</p> <ul style="list-style-type: none"> <li>– the hazardous nature of electricity;</li> <li>– limits and responsibilities imposed on electrical workers and non-electrical workers in terms of prescribed electrical work, which involves electrical hazards;</li> <li>– basic safety requirements when handling electrical equipment supplied by a flexible cord or connecting device in accordance with AS/NZS 3760; and</li> <li>– basic fire safety around electrical equipment.</li> </ul>
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<b>Classification</b>	Electrical Engineering > Core Electrical
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 This unit standard has been developed for learning and assessment off-job or on-job.
- 2 The suite of unit standards to meet the requirements for the TLC include this unit standard, and unit standards:
  - Unit 6401, *Provide first aid*
  - Unit 6402, *Provide basic life support* and
  - Unit 30657, *Isolate low-voltage electrical subcircuits and perform basic checks and tests to confirm isolation*, or demonstration of equivalent skills and knowledge.
- 3 Achievement of this unit standard alone does not entitle trainees to legally perform prescribed electrical work without supervision. Until registered and licensed under the Electricity Act 1992, trainees are assisting, and must work under supervision when carrying out prescribed electrical work.

#### 4 Definitions

*EWRB* – Electrical Workers Registration Board.

*Industry practice* – those practices that competent practitioners within the industry recognise as current industry best practice.

*Safe and sound practice* – as it relates to the installation of electrical equipment is defined in AS/NZS 3000:2007, *Electrical Installations (known as the Australian/New Zealand Wiring Rules)*.

#### 5 Range

a Demonstration of safe working practices in accordance with *safe and sound practice* are essential components of assessment of this unit standard.

b All activities and evidence presented for all outcomes and evidence requirements in this unit standard must be in accordance with:

i legislation;

ii policies and procedures;

iii ethical codes;

iv Standards – may include but are not limited to AS/NZS 3000:2007: *Electrical installations (known as the Australian/New Zealand Wiring Rules)*, AS/NZS 3760:2010/Amdt 2:2012: *In-service safety inspection and testing of electrical equipment*, AS/NZS 60479.1:2010: *Effects of current on human beings and livestock*, and those listed in Schedule 2 of the Electricity (Safety) Regulations 2010;

v applicable site, enterprise, and industry practice; and,

vi where appropriate, manufacturers' instructions, specifications, and data sheets.

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## Outcomes and performance criteria

### Outcome 1

Demonstrate knowledge of the hazardous nature of electricity.

#### Performance criteria

1.1 Explain the nature of electric shock in terms of how it may arise, its physiological effect, the effects of voltage, and the effects of current on the human body as described by Figure 14 of AS/NZS 60479.1.

1.2 Explain the hazards of short circuits and uncontrolled fault currents in terms of the risk of fire, and injury or damage to persons and property.

### Outcome 2

Demonstrate knowledge of limits and responsibilities imposed on electrical workers and non-electrical workers in terms of prescribed electrical work, which involves electrical hazards.

**Performance criteria**

- 2.1 Explain the limits of electrical workers where prescribed electrical work is involved.
- Range classes of registration, competency of workers, the need for a practicing license.
- 2.2 Explain the limits of non-electrical workers in terms of electrical work.
- Range prescribed electrical work, non-prescribed electrical work.
- 2.3 Outline the responsibilities relating to supervision of those undertaking electrical work in accordance with the EWRB's Supervision Procedures for Trainees.
- Range employer, supervisor, trainee, supervised person.
- 2.4 Outline safety requirements to be observed when working in an electrical environment or at a site where there are potential electrical hazards.
- Range may include but is not limited to – safe working distances around electrical equipment, underground services, overhead services, working with or around conductive insulation materials or conductive piping.
- 2.5 Identify control measures to eliminate or minimise electrical risks and hazards.
- Range control measures may include but are not limited to – switching off, isolating supply, locking-off and tagging of isolators, proving supply is dead by testing, precautions when leaving unfinished work, precautions for equipment that could be live, safety distances, personnel training, safety rules, access control, inspection and testing of tools and equipment, inspection of clothing;  
electrical hazards include but are not limited to – high current, high voltage, low voltage.

**Outcome 3**

Demonstrate knowledge of basic safety requirements when handling electrical equipment supplied by a flexible cord or connecting device in accordance with AS/NZS 3760.

Range basic electrical equipment may include but is not limited to – electric drill, electric sander, electric nail gun, electric heat gun.

**Performance criteria**

- 3.1 Explain general requirements relating to safe use of electrical equipment.
- 3.2 Identify signs that show electrical equipment is in poor condition.

**Outcome 4**

Demonstrate knowledge of basic fire safety around electrical equipment.

**Performance criteria**

- 4.1 Identify possible causes of electrical fires and the associated dangers.
- 4.2 Outline fire extinguisher types and identify the fuel for which each is intended.

<b>Planned review date</b>	31 December 2019
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	23 November 2017	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0003
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

**Comments on this unit standard**

Please contact The Skills Organisation [reviewcomments@skills.org.nz](mailto:reviewcomments@skills.org.nz) if you wish to suggest changes to the content of this unit standard.