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| Title | Select and use instruments for testing, fault finding, and repairing basic appliances | | |
| Level | 4 | Credits | 4 |

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| Purpose | People credited with this unit standard are able to: <ul style="list-style-type: none"> – select and use appropriate instruments to carry out fundamental electrical tests; and – identify and repair electrical faults in basic appliances. |
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| Classification | Electrical Engineering > Core Electrical |
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| Available grade | Achieved |
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Guidance Information

- 1 This unit standard has been developed for learning and assessment on-job. However, Outcome 2 may be assessed in a classroom, workshop, or a simulated work environment.
- 2 Unit standard or equivalent prior knowledge and skills recommended:
Unit 32614, *Demonstrate knowledge of electrical faults, circuit protection, de-commissioning, and commissioning.*
- 3 This unit standard can be used together with other relevant unit standards, additional learning and workplace training to meet the requirements of the Electrical Workers Registration Board (EWRB) core competencies, available at <https://www.ewrb.govt.nz>.
- 4 Definitions
Basic appliance – an appliance which is not complicated in its construction or operation, such as a heated towel rail, hairdryer, skill saw, electric jug.
Fundamental tests – are basic or entry level tests appropriate for new electrical trainees. Fundamental tests include conductor continuity, resistance, insulation resistance, voltage, current.
Safe and sound practice – as it relates to the installation of electrical equipment is defined in AS/NZS 3000.
- 5 References
AS/NZS 3000 (version as cited in the Electricity (Safety) Regulations), *Electrical Installations (known as the Australian/New Zealand Wiring Rules)*;
AS/NZS 3760:2010, *In-service safety inspection and testing of electrical equipment*;
AS/NZS 4836:2011, *Safe working on or near low-voltage electrical installations and equipment*;
AS/NZS 5761:2011, *In-service safety inspection and testing - Second-hand equipment prior to sale*;

AS/NZS 5762:2011, *In-service safety inspection and testing - Repaired electrical equipment*;
Electricity (Safety) Regulations 2010;
or any current subsequent amended or replacement versions.

- 6 This unit standard applies to installations and equipment rated above extra-low voltage unless specifically stated.
- 7 For performance criterion 1.2, the calculated results should be sufficiently close to the measured results to confirm that calculations can be used to anticipate measurement results or check their validity.
- 8 Range
- a Candidates may refer to current legislation and Standards during assessment.
 - b Demonstration of safe working practices and installation in accordance with *safe and sound practice* are essential components of assessment of this unit standard.
 - c All activities and evidence presented for all outcomes and performance criteria 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 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.
- 9 Candidates are expected to locate and reference the relevant clauses in the Standards that relate to the electrical work being undertaken.

Outcomes and performance criteria

Outcome 1

Select and use appropriate instruments to carry out fundamental electrical tests.

Performance criteria

- 1.1 Select the correct test instruments and test electrical circuits.
- Range must include – two of each of: conductor continuity, resistance, insulation resistance, voltage, current.
- 1.2 Calculate expected results and compare to measured results.
- Range one each for resistance, current, and power.

Outcome 2

Identify and repair electrical faults in basic appliances.

Range three appliances.

Performance criteria

- 2.1 Fault find appliances to identify electrical faults.
- 2.2 Repair electrical faults in appliances.
- 2.3 Test and tag appliances where appropriate in accordance with either AS/NZS 3760, AS NZS 5761, or AS/NZS 5762.

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| Planned review date | 31 December 2026 |
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Status information and last date for assessment for superseded versions

| Process | Version | Date | Last Date for Assessment |
|--------------|---------|---------------|--------------------------|
| Registration | 1 | 24 March 2022 | N/A |

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| Consent and Moderation Requirements (CMR) reference | 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 Waihangara Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@waihanga.nz if you wish to suggest changes to the content of this unit standard.