

Title	Demonstrate and apply knowledge of and the procedures for the examination of and testing of electrical installations		
Level	4	Credits	3

Purpose	<p>This unit standard covers the procedures for visual examination and testing of electrical installations to determine safety and compliance with regulations.</p> <p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> – demonstrate knowledge of inspection, testing, and certification requirements for electrical installations; – visually examine an electrical installation for electrical safety; and – test an electrical installation for electrical safety and compliance.
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Classification	Electrical Engineering > Electrical Installation and Maintenance
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Available grade	Achieved
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Explanatory notes

- 1 This unit standard has been developed for learning and assessment on-job or off-job, using laboratory simulation of electrical installations. The emphasis is on the use of correct procedures in terms of the current regulations and Standards. This unit standard should therefore be seen as underpinning the knowledge needed for visual examination and testing of real installations, as covered by corresponding on-job Unit 15870, *Inspect and test an electrical installation for compliance with AS/NZS 3000*.
- 2 This unit standard and unit standards 750 15852, 15870, and 29425 meet the assessment requirements of ERAC CEPCs 30.
This unit standard and unit standards 29427 and 29468 meet the assessment requirements of ERAC CEPCs 50.
- 3 Achievement of this unit standard does not by itself imply that trainees may legally perform prescribed electrical work in their own right. Until they are registered and licensed under the Electricity Act 1992, trainees are assisting and must work under the supervision of a Supervisor of Electrical Work when carrying out prescribed electrical work. If the prescribed electrical work in question is carried out for reward the Supervisor of Electrical Work must hold a valid practising licence.
- 4 Definitions
CEPC – Critical Essential Performance Capability.
ERAC – Electrical Regulatory Authorities Council.
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.

- 5 The *prove-test-prove* method refers to proving the instrument before and after a test to ensure that it works properly, and is particularly important when confirming electrical isolation. Some instruments have fused leads and may give false indication of isolation if the fuse is open circuit or blows during the test. Proving is done by applying the instrument to a circuit that is known to be energised and observing the measured voltage, testing the circuit to be isolated to ensure it is in fact isolated, then proving the instrument again on a circuit that is known to be energised.
- 6 Range
- a Electrical circuits – lighting circuit, power outlet, fixed wired appliance.
 - b Candidates may refer to current legislation and Standards during assessment.
 - c Demonstration of safe working practices and installation in accordance with *safe and sound practice* are essential components of assessment of this unit standard.
 - d 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;
 - v applicable site, enterprise, and industry practice; and,
 - vi where appropriate, manufacturers' instructions, specifications, and data sheets.

Outcomes and evidence requirements

Outcome 1

Demonstrate knowledge of inspection, testing, and certification requirements for electrical installations.

Evidence requirements

- 1.1 Identify testing requirements for prescribed electrical work.
- 1.2 Identify certification requirements for registered electricians carrying out prescribed electrical work.
- 1.3 Identify work that requires inspection by a registered electrical inspector.

Outcome 2

Visually examine an electrical installation for electrical safety.

Evidence requirements

- 2.1 Visually examine electrical installation for compliance with current regulations and Standards.

Range general safety, consumer's mains cable, switchboards, wiring

systems, electrical equipment including fixed wired appliances, earthing and earthing system.

2.2 Record visual examination results.

Outcome 3

Test an electrical installation for electrical safety and compliance.

Evidence requirements

3.1 Carry out tests and complete test sheet for three installations.

3.2 Record results and compare with the minimum and maximum values.

Replacement information	This unit standard and unit standard 15870 replaced unit standard 2027.
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Planned review date	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	10 February 1999	31 December 2013
Review	2	26 May 2005	31 December 2021
Rollover and Revision	3	15 March 2012	31 December 2021
Revision	4	15 January 2014	31 December 2021
Review	5	21 July 2016	N/A
Revision	6	16 March 2017	N/A

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>.

Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that

applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact The Skills Organisation reviewcomments@skills.org.nz if you wish to suggest changes to the content of this unit standard.