

Title	Demonstrate knowledge of inspection and certification of electrical work		
Level	5	Credits	8

Purpose	<p>This unit standard is intended for use in the training and assessment of electricians beyond trade level, and covers the theory requirements for the inspection and certification of electrical work.</p> <p>People credited with this unit standard are able to demonstrate:</p> <ul style="list-style-type: none"> – advanced knowledge of the Electricity Act 1992 and the Electricity Regulations 1997; – advanced knowledge of Electrical Standards and Codes of Practice; – advanced knowledge of the use of electrical test instruments for inspection purposes; – knowledge of the inspection of electrical work; and – knowledge of recording procedures for inspection results.
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Classification	Electrical Engineering > Electrical Standards and Statutes
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Available grade	Achieved
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Prerequisites	Registration with the Electrical Workers Registration Board as an Electrician.
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Guidance Information

- 1 This unit standard has been designed for training and assessment off-job.
- 2 References
 - AS/NZS 3000:2007 *Electrical installations (known as the Australian/New Zealand Wiring Rules)*;
 - AS/NZS 3000:2000 *Electrical installations (known as the Australian/New Zealand Wiring Rules)*;
 - AS/NZS 3001:2008 *Electrical Installations – Relocatable premises (including caravans and tents and their installation sites)*;
 - AS/NZS 3002:2008 *Electrical Installations – Shows carnivals and fair grounds*;
 - AS/NZS 3003:2018 *Electrical Installations – Patient treatment areas of hospitals and medical and dental practices*;
 - AS/NZS 3004:2014 *Electrical Installations – Marinas and pleasure craft at low voltage*;
 - AS/NZS 3012:2019 *Electrical Installations – Construction and demolition sites*;

AS/NZS 60079.17:2009 *Electrical Installations – Electrical equipment for explosive atmospheres*;
 NZS 3019:(Int) 2007 *Electrical installations – In-service testing*;
 Electricity Act 1992;
 Electricity Regulations 1997;
 Prescription For Electrical Inspector Examination And Teaching Guidelines For *Electrical Inspector Practical Assessments* – (available from EWRB website <http://www.ewrb.govt.nz>);
 New Zealand Electrical Codes of Practice available at <https://www.worksafe.govt.nz/laws-and-regulations/standards/electricity-standards-and-codes-of-practice/>;
 and all subsequent amendments and replacements.

3 Definitions

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

Advanced knowledge – for this unit standard means; employing specialised knowledge, with depth in more than one area of the subject matter, to analyse, reformat, and evaluate a wide range of information.

4 This unit standard is based on the theory training and written examination for Electrical Inspectors as specified in the Electricity Regulations, Schedule 4. (Prescribed under the Rules of the Electrical Workers Registration Board).

5 As part of the requirements for registration as an Electrical Inspector, candidates must pass the Electrical Workers Registration Board's (EWRB) written examination and practical assessments for Electrical Inspector. For this reason the only valid assessment tools for Unit 25638, *Demonstrate knowledge of inspection and certification of electrical work* and Unit 25640, *Inspect and certify electrical work* are the EWRB examination and practical assessment.

Candidates who complete the EWRB written examination will meet the requirements of Unit 25638, *Demonstrate knowledge of inspection and certification of electrical work*. Candidates who complete the EWRB practical assessments will meet the requirements of Unit 25640, *Inspect and certify electrical work*. However, Unit standard 25638 is a prerequisite for Unit standard 25640. Candidates will need to complete Unit standard 25638 before completing Unit standard 25640.

6 Competency under this unit standard alone does not entitle candidates to perform electrical inspections until they have been registered as an Electrical Inspector under the Electricity Act.

Outcomes and performance criteria

Outcome 1

Demonstrate advanced knowledge of the Electricity Act 1992 (the Act) and the Electricity Regulations 1997 (the Regulations).

Range provisions of the Act and Regulations relating to – electrical safety, registration and licensing of electrical workers, restrictions on electrical work, discipline, audits, disputes, accident reporting, testing of prescribed electrical work,

certification of prescribed electrical work, certification of installations disconnected from electrical supply for six months or more, certification of connectable installations (Electrical Warrants of Fitness), connection of prescribed electrical work, inspection of prescribed electrical work, periodic safety checks of electrical installations.

Performance criteria

- 1.1 Number, clause and verbatim text are quoted from the Act and Regulations in response to given prompts or situations.
- 1.2 Answers and references to relevant clauses are presented in response to questions regarding the provisions of the Act and Regulations.
- 1.3 Provisions of the Act and Regulations are described for given practical situations within the scope of work performed by registered electrical inspectors.

Outcome 2

Demonstrate advanced knowledge of Electrical Standards and Codes of Practice.

Range AS/NZS 3000:2000, AS/NZS 3000:2007, NZECP's, AS/NZS 3001:2008, AS/NZS 3002:2008, AS/NZS3003:2018, AS/NZS 3004:2014, AS/NZS 3012:2019, AS/NZS 60079.17:2009, NZS 3019 (Int) 2007.

Performance criteria

- 2.1 Solutions and references to relevant clauses are presented in response to questions regarding any aspect of the codes and standards within the scope of work performed by registered electrical inspectors.
- 2.2 Codes of Practice and Standards are described in terms of given practical situations within the scope of work performed by registered electrical workers and electrical work performed by home-owners.

Outcome 3

Demonstrate advanced knowledge of the use of electrical test instruments for inspection purposes.

Range insulation resistance tester, earth fault loop impedance tester, phase rotation tester, resistance tester, voltage tester, residual current device tester.

Performance criteria

- 3.1 Instrument selection is described in terms of suitability for the type of measurements to be taken in accordance with manufacturers' specifications and industry practice.
- 3.2 Calibration and setting of instruments are described, in accordance with manufacturers' specifications.

- 3.3 Procedures for taking measurements are described in accordance with manufacturers' specifications and industry practice.
- 3.4 Safety procedures for the use of instruments which prevent danger to persons or damage to instruments are described in accordance with manufacturers' specifications and industry practice.

Outcome 4

Demonstrate knowledge of the inspection of electrical work.

Range prescribed electrical work requiring inspection under Regulation 41 categories (a) to (f) of the Electricity Regulations 1997, inspection work performed under Regulations 43A, 46, 47, and 97.

Performance criteria

- 4.1 The visual inspection requirements for three given electrical installations to confirm compliance with the Electricity Regulations, Codes of Practice, and/or Standards that apply to that installation are explained and examples of non-compliance are described.

Outcome 5

Demonstrate knowledge of recording procedures for inspection results.

Range requirements of Electricity Regulations 39, 40, 41, 42, 43A, 46, 47, 50, 51, 69, and 97.

Performance criteria

- 5.1 The procedure for recording inspection results is described using the appropriate prescribed forms in accordance with current legislative requirements.
- 5.2 Procedures for certifying compliant installations are described in terms of issuing Certificates of Compliance, Certificates of Verification, and Warrants of Electrical Fitness as applicable in accordance with legislative requirements.
- 5.3 The procedures for documenting and reporting non-compliant work are described in accordance with legislative requirements and industry practice.

Replacement information	This unit standard and unit standard 25640 together replaced unit standard 19014.
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Planned review date	31 December 2022
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 June 2009	N/A
Rollover and Revision	2	25 March 2021	N/A

Consent and Moderation Requirements (CMR) reference

0003

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 if you wish to suggest changes to the content of this unit standard.