

Title	Install a complete electrical installation		
Level	4	Credits	10

Purpose	People credited with this unit standard are able to: <ul style="list-style-type: none"> – prepare for and plan an electrical installation; – install and test the electrical installation; and – live in the electrical installation.
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Classification	Electrical Engineering > Electrical Installation and Maintenance
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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.
- 2 Unit standards or equivalent prior knowledge and skills recommended:
 - Unit 32630, *Establish new worksites and interpret plans;*
 - Unit 32631, *Install, join, and terminate cables;*
 - Unit 32632, *Design switching circuits and a PLC programme;*
 - Unit 32633, *Install electrical equipment in damp situations and install earthing and lighting;*
 - Unit 32634, *Plan circuit protection, and install and test distribution boards;*
 - Unit 32638, *Demonstrate knowledge of earthing systems and switchboards;*
 - Unit 32639, *Demonstrate knowledge of cable selection, underground cable systems, and specialised cables;*
 - Unit 32642, *Demonstrate knowledge of de-commissioning, commissioning, and verification of electrical installations;*
 - Unit 32646, *Select cables for different applications;*
 - Unit 32647, *Install mains and submains cables;*
 - Unit 32648, *Install a main switchboard.*
- 3 Installation and assessment is to be carried out under appropriate supervision as set out in the EWRB supervision guidelines.
- 4 This assessment is intended to be carried out in one installation where the candidate completes the entire process of the installation from planning to the final functional tests.

5 Definitions

Electrical installation includes but is not limited to – mains cable, switchboard, earthing, circuit control and protection equipment, subcircuits.

Safe and sound practice – as it relates to the installation of electrical equipment is defined in AS/NZS 3000.

Stakeholders – refers to clients, installation owners, management, public, other trades people on site, candidate's work team, and any other people affected by work on site and/or the outcome of that work.

6 References

AS/NZS 3000 (version as cited in the Electricity (Safety) Regulations), *Electrical Installations (known as the Australian/New Zealand Wiring Rules)*;

AS/NZS 3008.1.2:2017, *Electrical installations - Selection of cables (Cables for alternating voltages up to and including 0.6/1 kV - Typical New Zealand conditions)*;

AS/NZS 3017:2007, *Electrical installations - Verification guidelines*;

AS/NZS 4836:2011, *Safe working on or near low-voltage electrical installations and equipment*;

Electricity (Safety) Regulations 2010;

or any current subsequent amended or replacement versions.

7 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>.

8 This unit standard applies to installations and equipment rated above extra-low voltage unless specifically stated.

9 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.

Outcomes and performance criteria

Outcome 1

Prepare for and plan an electrical installation.

Range includes but is not limited to – working within time and budget constraints.

Performance criteria

- 1.1 Communicate with stakeholders to establish installation requirements.
- Range includes but is not limited to – obtaining information on the number, position, type, and style of electrical fittings and equipment, the quality and finish required for the work.
- 1.2 Plan the size and arrangement of electrical cables and circuit protection.
- Range includes but is not limited to – mains cable loading and maximum demand calculations, number of sub-circuits, size of sub-circuit cables, rating of circuit protection.
- 1.3 Use a schedule to organise and procure the fittings and material required to complete the installation.
- 1.4 Arrange electrical supply.
- 1.5 Prepare health and safety arrangements appropriate for the job.
- Range includes but is not limited to – risk assessment and planning for implementation of appropriate risk controls.
- 1.6 Select and prepare tools and associated equipment.

Outcome 2

Install and test the electrical installation.

Performance criteria

- 2.1 Carry out the electrical installation.
- Range includes but is not limited to – application of risk controls, safe and sound work practices, compliance with AS/NZS 3000, compliance with the building code where applicable, compliance with stakeholder expectations for the installation including the quality and finish of work.
- 2.2 Test to the requirements of AS/NZS 3000 and confirm that the installation is safe to connect to the supply.
- 2.3 Arrange for the completion of a certificate of compliance by a registered tradesperson.

Outcome 3

Liven the electrical installation.

Performance criteria

- 3.1 Coordinate the connection of the electrical installation to the supply.
- 3.2 Carry out functional tests of the installation and confirm that the installation is safe and ready for use.

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

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 Waihanga 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.