

<b>Title</b>	<b>Demonstrate knowledge of regulations and codes of practice for Electrical Service Technicians – B</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>2</b>

<b>Purpose</b>	<p>'Electrical Service Technician – B' (EST – B) refers to a class of electrical registration for people who need to work on electrical appliances directly connected to fixed wiring, and rated at no more than 460 volts. Registration is the responsibility of the Electrical Workers Registration Board.</p> <p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> <li>– identify and apply Electricity Regulations and relevant standards;</li> <li>– demonstrate knowledge of the responsibilities and limitations pertaining to holders of EST-B registration;</li> <li>– demonstrate knowledge of the requirements for electrical apparatus in damp situations; and</li> <li>– demonstrate knowledge of the requirements for electrical apparatus in hazardous areas.</li> </ul>
----------------	---

<b>Classification</b>	Electrical Engineering > Core Electrical
-----------------------	--

<b>Available grade</b>	Achieved
------------------------	----------

<b>Prerequisites</b>	Unit 10935, <i>Demonstrate knowledge of regulations and codes of practice for Electrical Service Technicians – A</i> , or demonstrate equivalent knowledge and skills.
----------------------	--

### Guidance Information

- 1 This unit standard has been developed for learning and assessment off-job.
- 2 This unit standard, together with Unit 10937, *Demonstrate knowledge of electrical theory for Electrical Service Technician – B*, Unit 10938, *Demonstrate knowledge of appliance isolation, connection, and testing procedures for EST – B*, and Unit 10940, *Demonstrate practical skills required for Electrical Service Technicians – B*, and their prerequisites, are designed to meet the *safety instruction, theory examination, and practical assessment* requirements for registration as an Electrical Service Technician 'B' (EST – B). For details of additional registration requirements, that is, work experience, candidates should contact the Electrical Workers Registration Board, PO Box 10156, Wellington, telephone: 0800 661 000.
- 3 Training courses designed to prepare candidates for credit in this unit standard must meet the requirements of the *Electricity Regulations 1997, Schedule 2*, and the

*Teaching Guidelines for Electrical Service Technician 'B'* issued by the Electrical Workers Registration Board.

- 4 Assessment against this unit standard must be in accordance with the associated Assessment Guide issued by The Skills Organisation.
- 5 References  
Electricity Act 1992;  
Electricity Regulations 1997;  
Health and Safety in Employment Act 1992;  
The New Zealand Electrical Codes of Practice (Ministry of Economic Development, ISSN 0114-0663);  
AS 1939:1990, *Degrees of protection provided by enclosures for electrical equipment (IP code)* (AS 1939:1990);  
AS/NZS 2381:2005, *Electrical equipment for explosive atmospheres – Selection, installation and maintenance – General requirements* (AS/NZS 2381:2005);  
AS/NZS 2500:2004, *Guide to the safe use of electricity in patient care*;  
AS/NZS 3000:2007, *Electrical installations (known as the Australian/New Zealand Wiring Rules)* (AS/NZS 3000:2007);  
AS/NZS 3001:2001, *Electrical installations – Relocatable premises (including caravans and tents) and their site installations*;  
AS/NZS 3003:2003, *Electrical installations – Patient areas of hospitals, medical and dental practices and dialyzing locations* (AS/NZS 3003:2003);  
AS/NZS 3004:2002, *Electrical installations – Marinas and pleasure craft at low-voltage*;  
AS/NZS 3008.1.2:1998, *Electrical installations – Selection of cables – Cables for alternating voltages up to and including 0.6/1 kV – Typical New Zealand installation conditions* (AS/NZS 3008.1.2:1998);  
AS/NZS 3019:2007, *Electrical installations – Periodic verification* (AS/NZS 3019:2007);  
AS/NZS 3551:2004, *Technical management programs for medical devices* (AS/NZS 3551:2004);  
AS/NZS 3760:2003, *In-service safety inspection and testing of electrical equipment*;  
AS/NZS 60079:2005, *Electrical apparatus for explosive gas atmospheres – General requirements* (AS/NZS 60079:2005);  
*Electrical Service Technician 'A' Handbook*, Electrical Workers Registration Board; and all subsequent amendments and replacements.

---

## Outcomes and performance criteria

### Outcome 1

Identify and apply Electricity Regulations and relevant standards.

- Range Electricity Act 1992, Health and Safety in Employment Act 1992, Electricity Regulations 1997, AS 1939:1990, AS/NZS 2381:2005, AS/NZS 2500:2004, AS/NZS 3000:2007, AS/NZS 3003:2003, AS/NZS 3008.1.2:1998, AS/NZS 3019:2007, AS/NZS 3551:2004.
- Evidence is limited to regulations and codes of practice, or parts thereof, which relate to work that EST- A registered persons may perform. Candidates may refer to the Electricity Regulations and relevant standards during the assessment.

**Performance criteria**

- 1.1 Electricity Regulations and relevant standards are identified by quoting number, clause, and verbatim text pertinent to any aspect of EST – B work.
- 1.2 Regulations, Codes of Practice and relevant standards are applied to practical situations within the scope of EST-B work.

**Outcome 2**

Demonstrate knowledge of the responsibilities and limitations pertaining to holders of EST – B registration.

**Performance criteria**

- 2.1 Demonstration includes description of limits of electrical work that may be carried out after passing the EST – B examination, and after obtaining registration from the Electrical Workers Registration Board.
- 2.2 Demonstration includes description of 'prescribed electrical work' that holders of EST – B registration can perform, in accordance with the Electricity Regulations.
- 2.3 Demonstration includes identification of persons who may assist a registered electrical service technician in carrying out 'prescribed electrical work', in accordance with the Electricity Regulations.
- 2.4 Demonstration includes the responsibilities of persons carrying out 'prescribed electrical work', in accordance with the Electricity Regulations.  
  
Range responsibilities – compliance with the Electricity Act, Electricity Regulations, and relevant standards as they apply to the work undertaken, high standard of workmanship, safe working practices.
- 2.5 Demonstration includes identification of situations where the services of a Registered Electrician may be required, in accordance with the Electricity Regulations.

**Outcome 3**

Demonstrate knowledge of the requirements for electrical apparatus in damp situations.

**Performance criteria**

- 3.1 The term 'damp situation' is defined in accordance with Electricity Regulations.
- 3.2 Demonstration includes a description of the requirements of Electricity Regulation 90 and AS/NZS 3000:2007 for electrical appliances installed in damp situations.

- 3.3 The ingress-protection (IP) rating system is described in terms of the meaning of the first and second digits, and the degree of protection afforded by each combination, in accordance with AS 1939:1990.

Range degree of protection – ingress of solid bodies, protection of persons against contact with live or moving parts, protection against the ingress of liquids;  
IP rating – dust-protected, weather-protected, drip-proof, splash-proof, hose-proof, screen-protected, open, guarded, totally enclosed.

#### Outcome 4

Demonstrate knowledge of the requirements for electrical apparatus in hazardous areas.

#### Performance criteria

- 4.1 The term 'hazardous area' is defined in accordance with the Electricity Regulations.
- 4.2 Classification of hazardous areas are described in accordance with AS/NZS 60079:2005.
- Range class 1 – flammable gases, vapours, or mists, zones 0, 1, and 2; class 2 – dust, zones 11 and 12.
- 4.3 The system of classifying electrical equipment for use in hazardous areas is explained in accordance with the Electricity Regulations and relevant standards.
- Range flame proof, increased safety, intrinsically safe, non-sparking; classifications – Ex d, Ex e, Ex i, Ex n, Ex p, Ex s.
- 4.4 Demonstration includes a description of the approval and certification requirements for electrical appliances and associated fittings used in hazardous areas, in accordance with the Electricity Regulations and relevant standards.

**This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.**

#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	25 June 1997	31 December 2022
Revision	2	3 April 2001	31 December 2022
Revision	3	14 August 2002	31 December 2022
Rollover and Revision	4	25 February 2008	31 December 2022
Review	5	28 January 2021	31 December 2022

<b>Consent and Moderation Requirements (CMR) reference</b>	0003
--	------

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

This unit standard is expiring