

<b>Title</b>	<b>Respond to substation secondary systems alarms and indications in the electricity supply industry</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>4</b>

<b>Purpose</b>	People credited with this unit standard are able to: describe control systems associated with an electricity supply substation; describe the functions and components of electricity substation secondary systems; and identify, log and communicate the operation of substation secondary systems indications and alarms.
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<b>Classification</b>	Electricity Supply > Electricity Supply - Core Skills
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable legislative and industry requirements.
- 2 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the current version of the Health and Safety at Work Act 2015; Electricity Act 1992; Electricity (Safety) Regulations 2010; and any subsequent amendments and replacements; Electricity supply industry codes of practice and documented enterprise procedures, including *Safety Manual – Electricity Industry (SM-EI)* (2015) available at [www.eea.co.nz](http://www.eea.co.nz).
- 3 Definitions  
*Asset owner* refers to a participant who owns or operates assets used for generating or conveying electricity.  
*Industry requirements* include all asset owner requirements; manufacturers' specifications; and enterprise requirements which cover the documented workplace policies, procedures, specifications, business, and quality management requirements relevant to the workplace in which assessment is carried out.

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### Outcomes and performance criteria

#### Outcome 1

Describe control systems associated with an electricity supply substation.

**Performance criteria**

- 1.1 Substation secondary systems are described.  
Range evidence of three systems is required.
- 1.2 Components of control systems are described.  
Range evidence of three components is required.

**Outcome 2**

Describe the functions and components of electricity substation secondary systems.

**Performance criteria**

- 2.1 The functions and components of electricity substation secondary systems are described.  
Range evidence of three functions and three components is required.
- 2.2 The functions and components of electricity substation protection systems are described.  
Range evidence of three functions and three components is required.

**Outcome 3**

Identify, log and communicate the operation of substation secondary systems indications and alarms.

Range includes but is not limited to – reason for alarm or indication, acknowledgement and resetting.

**Performance criteria**

- 3.1 Transformer protection indications are identified, logged and communicated.  
Range evidence of two different transformer protection indications is required.
- 3.2 Distance protection elements are identified, logged and communicated.  
Range evidence of two different distance protection indications is required.
- 3.3 Bus bar protection indications are identified, logged and communicated.  
Range evidence of two different bus bar protection indications is required.

3.4 Feeder protection indications are interpreted and responded to in terms of elements.

Range evidence of two different feeder protection indications is required.

3.5 Station alarm indications are identified, logged and communicated.

Range compressor fail, battery charger fail, DC systems earth fault, local supply AC, fire and smoke protection, intruder, metering, vibration; evidence of four different station alarm indications is required.

<b>Planned review date</b>	31 December 2025
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#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	22 October 2003	1 December 2012
Rollover and Revision	2	20 June 2008	1 December 2012
Review	3	21 July 2011	31 December 2019
Review	4	16 March 2017	31 December 2022
Review	5	27 August 2020	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0120
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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 Connexis - Infrastructure Industry Training Organisation [qualifications@connexis.org.nz](mailto:qualifications@connexis.org.nz) if you wish to suggest changes to the content of this unit standard.