Title	**Identify electricity systems used in the electricity supply industry**		
Level	**2**	**Credits**	**6**

Purpose	People credited with this unit standard are able to: identify types of electric lines; identify circuit operating voltages; and identify types of conductors and cables used in the electricity supply industry; and identify types and functions of structures used to carry overhead electricity conductors.

Classification	Electricity Supply > Electricity Supply - Core Skills

Available grade	Achieved

Guidance Information

1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable industry and legislative 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) Wellington: Electricity Engineers' Association available from www.eea.co.nz.

3 Definitions
AC refers to alternating current.
Asset owner refers to a participant who owns or operates assets used for generating or conveying electricity.
Electric Lines are the structure of works or electrical installations carrying conductors above or below ground; and includes the fittings used in conjunction with conductors but does not include fixed wiring.
HV refers to high voltages which means voltages exceeding 1 kV AC.
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.
LV refers to low voltages which means voltages exceeding 50 V AC but not exceeding 1 kV AC.

Outcomes and performance criteria

Outcome 1

Identify types of electric lines used in the electricity supply industry.

Range distribution, traction, transmission.

Performance criteria

1.1 Types of electricity transmission lines are identified.

Range alternating current, direct current, single or multiple circuits.

1.2 Types of electricity distribution lines are identified.

Range may include – control system, earth return, single and multiple phases, single or multiple circuits, single wire, street lighting, catenary;
evidence of three types is required.

1.3 Electricity traction lines are identified.

Outcome 2

Identify circuit operating voltages used in the electricity supply industry.

Performance criteria

2.1 Operating transmission, traction and distribution voltages are identified.

2.2 Distribution operating voltages are identified by above ground conductor groupings.

Range may include – LV, HV.

Outcome 3

Identify types of conductors and cables used in the electricity supply industry.

Performance criteria

3.1 Types of conductors used above ground are identified.

Range bare, covered, insulated, bundled, multiple conductor, solid, stranded;
type – copper, aluminium, steel, composite.

3.2 Types of cables used below ground are identified.

Range type – insulation, conductor, mechanical protection, LV and HV.

Outcome 4

Identify types and functions of structures used to carry overhead electricity conductors.

Performance criteria

4.1 Types of structures used to carry overhead conductors are identified.

Range poles – wood, concrete, steel, single, double;
towers – flat top, multiple circuits, single circuits, temporary.

4.2 Functions of structures used to carry overhead conductors are identified.

Range suspension, strain, terminal and intermediate.

Planned review date	31 December 2024

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 June 1997	31 December 2016
Review	2	27 April 2001	31 December 2016
Review	3	22 October 2003	31 December 2016
Rollover and Revision	4	16 July 2010	31 December 2016
Review	5	15 August 2013	31 December 2021
Review	6	28 November 2019	N/A

Consent and Moderation Requirements (CMR) reference	0120

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

Comments on this unit standard

Please contact the Connexis - Infrastructure Industry Training Organisation qualifications@connexis.org.nz if you wish to suggest changes to the content of this unit standard.