

Title	Locate faults, and repair or replace faulty components in a distribution network to a consumer installation		
Level	4	Credits	20

Purpose	People credited with this unit standard are able to: identify the scope of the work for repairing or replacing faulty components or repairing faults in a distribution network up to and including the consumer main switchboard; locate faulty component or fault and identify associated hazards in carrying out repair; isolate electrical components; isolate electrical components; repair or replace faulty component or repair fault; and complete all checks and tests as required by the Electricity (Safety) Regulations and reinstate electricity supply to consumer.
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Classification	Electricity Supply > Electricity Supply - Distribution Networks
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Available grade	Achieved
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Guidance Information

- Candidates for this unit standard must hold a EWRB registration and current practising licence.
- 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.
- Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to:
 - Health and Safety at Work Act 2015;
 - Electricity Act 1992;
 - Electricity (Safety) Regulations 2010;
 - Electricity supply industry codes of practice and documented enterprise procedures, including *Safety Manual – Electricity Industry* (SM-EI) and relevant EEA guides available from www.eea.co.nz; and any subsequent amendments and replacements.
- 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 and standards; 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.

5 Range

Single or three-phase systems; carrying out the location of faults, repair or replacement of components located on the main MEN switchboard and to the supply point of entry.

Evidence is required for six faults, of which two must be in a three-phase installation. Each fault and repair must be different.

6 Reference

Electrical Engineers Association (2013). *Line Mechanic and Cable Jointers Handbook. Chapter 24 Faults and Fault Response* (6th ed.). Wellington: EEA.

Outcomes and performance criteria**Outcome 1**

Identify the scope of the work for repairing or replacing faulty components or repairing faults in a distribution network up to and including the consumer main switchboard.

Performance criteria

1.1 The relevant procedures and standards are identified and interpreted for finding the faulty component or fault.

1.2 Information received and historical information about the faulty component or fault are analysed and interpreted.

Range may include but is not limited to – client report, visual sightings, test results, manufacturer's guidelines, client operating and maintenance standards, local work procedures, condition assessment reports.

Outcome 2

Locate faulty component or fault and identify associated hazards in carrying out repair.

Performance criteria

2.1 Hazards associated with locating the fault or faulty component are identified and safety plan is produced.

2.2 Relevant tests and inspections to locate the fault or faulty component are carried out.

2.3 The fault or faulty component is identified for work access.

Outcome 3

Isolate electrical components.

Performance criteria

- 3.1 Electricity supply is isolated.
- 3.2 Isolations are tested and proved de-energised.
- 3.3 Isolations are clearly tagged to prevent further use.

Outcome 4

Repair or replace faulty component or repair fault.

Performance criteria

- 4.1 Safety measures are implemented to carry out any repair or replacement of faulty component or repair of fault.
- 4.2 Repair or replacement of faulty component or repair of fault is carried out.
- 4.3 Visual checks of the repaired or replaced faulty component or repaired fault are carried out.

Outcome 5

Complete all checks and tests as required by the Electricity (Safety) Regulations and reinstate electricity supply to consumer.

Performance criteria

- 5.1 De-energised safety tests are completed.

Range may include but is not limited to – continuity of conductors, insulation resistance and earthing resistance, earth pin resistance.
- 5.2 The electricity supply is reconnected.
- 5.3 Energised safety tests are completed.

Range may include but is not limited to – phase rotation, polarity, live rated-voltage test, function of installation.
- 5.4 Compliance certificates and documentation are completed in accordance with current regulations, standards and asset owner's reporting requirements.

Replacement information	This unit standard replaced unit standard 25074.
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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	16 March 2017	31 December 2023
Review	2	30 September 2021	N/A

Consent and Moderation Requirements (CMR) reference	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 if you wish to suggest changes to the content of this unit standard.