

Title	Remove and return electricity supply network equipment from service for access for work (System Operation)		
Level	4	Credits	10

Purpose	People credited with this unit standard are able to: prepare and action switching instruction for the safe removal and return of equipment to service; issue, return, transfer or cancel permits; and prepare for, issue, return and cancel Live Line permits.
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Classification	Electricity Supply > Electricity Supply - Power System Management
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Available grade	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 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) available at 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.

SCADA – Supervisory Control and Data Acquisition system used for control, indication, and monitoring purposes.

Switching refers to actions carried out by a network control centre to divert electrical current and permit contractors to perform work safely and efficiently on an electricity supply network without discontinuing supply to customers.

Switching instruction (sometimes referred to as an operating order or operating sequence) is a document with a planned sequence of operating actions (or a single action) that has been compiled in an approved format.

Outcomes and performance criteria

Outcome 1

Prepare and action switching instruction for the safe removal and return of equipment to service.

Performance criteria

- 1.1 Information for switching instruction is collated and sequenced.
- 1.2 Sufficient equipment is scheduled for removal from service to allow safe access to the equipment being worked on.
- 1.3 Switching operations are confirmed by all parties immediately prior to actioning switching instruction.
- 1.4 Switching operations are carried out in accordance with industry asset owner's operating standards.
- 1.5 Power system equipment is removed from service within agreed timeframe.
- 1.6 Operating required to prepare equipment for authorised release is carried out within timeframe specified by asset owner standards.
- 1.7 Points of isolation are confirmed in locked and/or tagged position.

Range may include but is not limited to – direct observation by operator, points of isolation are open, and the earths are applied, assurance from asset owner or asset owner's agent.
- 1.8 Power system equipment is operated in accordance with steps outlined in switching plan.
- 1.9 Mechanical and electrical sources of energy associated with the planned work are isolated, discharged, and rendered safe.

Range may include but is not limited to energy sources such as – local service feeds, heating, stored energy systems, pneumatic, spring, compressed air systems.
- 1.10 Safety precautions are carried out in accordance with specifications of industry safety rules and asset owner's standards and procedures.

Range may include but is not limited to – use of voltage detectors.
- 1.11 Equipment is returned to service within agreed timeframe.

Outcome 2

Issue, return, transfer or cancel permits.

Performance criteria

- 2.1 Competency records are checked for currency and consistency with industry safety rules.
- 2.2 Permits are issued, returned, transferred or cancelled.
- 2.3 Assurances associated with generators, Transpower, or other asset owners are sent and received.
- 2.4 Permits are checked to ensure that issue will not affect any other permit holders.

Outcome 3

Prepare for, issue, return and cancel Live Line permits.

Performance criteria

- 3.1 Live Line recipient's records are checked for live line competency.
- 3.2 Re-close blocks on circuits are applied before issuing Live Line permits.

Range may include but is not limited to – signs such as electronic tag on SCADA system, Live Line work symbol on board, warning notice on relay panel where disabled, auto re-close block, entry in logbook.
- 3.3 Network circuit is monitored and maintained and not put at risk during Live Line operations.
- 3.4 Communication links are maintained between Live Line parties at agreed intervals.

Range may include but is not limited to – contractor, system operator.
- 3.5 Live Line permits are issued and cancelled consistent with industry procedures.
- 3.6 Changes in status of Live Line circuits are identified and remedial action is taken.

Range may include but is not limited to – degradation of line protection, servicing work on de-energised circuit, work on off load but energised circuit, tripping of distribution circuit fault.
- 3.7 Re-close blocks are removed, and circuits are re-livened.

Range may include but is not limited to – removal of electronic tag on SCADA system, Live Line work symbol on board, warning notice on relay panel where disabled, auto re-close block, entry in logbook.

Planned review date	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	3 August 1999	31 December 2022
Revision	2	11 February 2004	31 December 2022
Rollover and Revision	3	26 November 2007	31 December 2022
Review	4	16 April 2010	31 December 2022
Review	5	27 August 2020	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 at qualifications@connexis.org.nz if you wish to suggest changes to the content of this unit standard.