

Title	Describe switching instructions and how to compile them, and action a switching instruction in electricity supply		
Level	4	Credits	10

Purpose	People credited with this unit standard are able to: describe switching instructions as used in an electricity supply network; describe how to compile a switching instruction; action a switching instruction; and review operating actions.
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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 legislative and industry requirements.

- 2 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the Health and Safety at Work Act 2015; Electricity Act 1992; Electricity (Safety) Regulations 2010; and any subsequent amendments and replacements; and 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 refers to Supervisory Control and Data Acquisition system used for control, indication, and monitoring purposes.
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.
The log is the collection of logbooks, log sheets, and other records including electronic and tape, which together form a complete record of operating events in a station or operating area.
Work approvals refers to but is not limited to work permits, access permits, test permits, and assurances.

Outcomes and performance criteria

Outcome 1

Describe switching instructions as used in an electricity supply network.

Performance criteria

- 1.1 The reasons for switching instructions are described in terms of switchgear operation, proof of de-energised equipment, security and safety measures.
- 1.2 The situations when switching instructions are not required are described.
- 1.3 Steps required to plan switching instructions are described in terms of industry liaison, communication, and system requirements.
- 1.4 Switching instructions in an electricity supply network are described in terms of equipment, permits and individual's responsibility.

Outcome 2

Describe how to compile a switching instruction.

Performance criteria

- 2.1 The structure of a switching instruction is described in terms of the minimum number of operations.
- 2.2 Steps to compile a switching instruction are described in terms of information required, job role, and safety hazards.
- 2.3 Circumstances where changes to a switching instruction would be necessary are described.
- 2.4 The need to compile a switching instruction within a set timeframe is described.

Outcome 3

Action a switching instruction.

Range evidence of three is required.

Performance criteria

- 3.1 Process is established.
- 3.2 Switching is carried out.

Range may include but is not limited to – SCADA.

- 3.3 Operating steps are actioned in accordance with sequence specified in switching instruction.
- Range may include but is not limited to – field operators, SCADA.
- 3.4 Time of initiating and completion of each operating step is documented on switching instruction.
- Range may include but is not limited to – system operator and field operator reports.
- 3.5 Alterations to switching instruction are discussed, approved, and implemented in consultation with system controller.
- Range may include but is not limited to – system operator, contractor, release system coordinator.
- 3.6 Communication links with controller and/or operator are maintained at agreed intervals.
- Range may include but is not limited to – phone, radio.
- 3.7 Status of equipment is inspected, tested for compliance with industry safety rules and confirmed as safe to operate.
- Range may include but is not limited to – voltage detection device, portable earths, switch position, pressure gauges, oil levels.
- 3.8 Network equipment is restored to, or removed from, service.
- 3.9 Steps in switching instruction are actioned and documented.
- Range may include but is not limited to – reports from system operators, field operators, contractors, log entries.

Outcome 4

Review operating actions.

Performance criteria

- 4.1 Operating actions are reviewed to determine compliance with the switching instruction.
- Range may include but is not limited to – system operators, field operators, contractors.
- 4.2 Status of network equipment is updated.
- Range may include but is not limited to – single line diagrams, SCADA, mimic displays.

4.3 Changes and modifications to network equipment are noted from switching plan.

Range may include but is not limited to – mimic display, SCADA, the log.

4.4 Work approvals are monitored for their acceptance and return within a timeframe specified by asset owner.

Replacement information	This unit standard replaced unit standard 20093.
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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	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 qualifications@connexis.org.nz if you wish to suggest changes to the content of this unit standard.