

SWITCHING TERMINOLOGY AND APPROVED ABBREVIATIONS

OPERATIONAL SAFETY MANUAL - SECTION 4.4

PR-NET-OSM-028	Switching Terminology and Approved Abbreviations - Operational Safety Manual - Section 4.4		Applies to	
			Distribution ✓	Transmission
Revision: 1.00	Classification: Public	Issue Date: March 2023	Review Date: March 2028	

	Name	Title
Author	N/A	Distribution SHE Team
Checked by	Peter Vujanic	Head of SHE Distribution
Approved by	Richard Gough	Designated Engineer

CONTENTS

1	Introduction.....	3
2	Scope	3
3	References	3
4	Definitions.....	3
5	General Responsibilities	4
6	Authorisation	4
7	Switching Terminology	4
8	Approved Abbreviations	6
9	Revision History	9

PR-NET-OSM-028	Switching Terminology and Approved Abbreviations - Operational Safety Manual - Section 4.4		Applies to	
			Distribution ✓	Transmission
Revision: 1.00	Classification: Public	Issue Date: March 2023	Review Date: March 2028	

1 Introduction

- 1.1 This document defines **Approved Switching** terminology and abbreviations to be used as part of planned and unplanned **Switching** on the **System**.
- 1.2 It also defines **Approved** abbreviations for use in **Safety Documents**.
- 1.3 Compliance with the following procedure **Shall** ensure a common approach is adopted by staff who are authorised and competent to prepare **Switching** schedules and to carry out **Switching** on the **System**.

2 Scope

- 2.1 The scope of this document **Shall** be limited to **Persons** who are required to co-ordinate and carry out **Switching** for operational purposes on the **System**.
- 2.2 The procedures included have been developed to minimise incidents associated with human error by ensuring that:
- A consistent approach is maintained for the control and operation of the **System**
 - There is a common understanding amongst operational staff of the terms and abbreviations used when carrying out work or **Switching** on the **System**
- 2.3 This document applies to **Systems** energised at a nominal system voltage up to and including 132 kV.
- 2.4 This document does not contain a list of terms and abbreviations used in operational procedure documents, refer to REF-NET-ENG-001.

3 References

The documents detailed in Table 3.1 - Scottish and Southern Electricity Networks Documents, should be used in conjunction with this document.

Table 3.1 - Scottish and Southern Electricity Networks Documents

Reference	Title
PR-NET-OSM-006	SSEN Distribution Operational Safety Rules – Operational Safety Manual – Section 1.1
REF-NET-ENG-001	Common Acronyms and Terms Used in Networks Documents- Reference Document
PR-PS-249	Replacement of Fuses on the HV Network Following Operation
N/A	SSEN SHE Handbook (Held in Safety, Health and Wellbeing SharePoint Site)

4 Definitions

- 4.1 The words printed in bold text within this document are either headings or definitions used within Section 2 of the **OSR**.

PR-NET-OSM-028	Switching Terminology and Approved Abbreviations - Operational Safety Manual - Section 4.4		Applies to	
			Distribution ✓	Transmission
Revision: 1.00	Classification: Public	Issue Date: March 2023	Review Date: March 2028	

5 General Responsibilities

- 5.1 Persons who are required to operate and undertake work on the **System** **Shall** have a thorough understanding of the work and ensure on-site risks are suitably assessed and appropriate control measures put in place before, during and after all activities.
- 5.2 Persons must ensure that at all times during the work (or associated testing) **General Safety** arrangements are maintained and that other work areas are not adversely affected by the activities for which they are responsible.

6 Authorisation

- 6.1 It **Shall** be the responsibility of the individual to ensure that any actions performed are within the bounds of their competency and authorisation level.
- 6.2 Competence and authorisation certificates **Shall** be retained personally and be made available upon request.

7 Switching Terminology

- 7.1 Where practicable, **Approved** and standardised terminology **Shall** be used when instructing or receiving **Switching** instructions. This applies to both planned and unplanned work that uses **Approved Switching** schedules and / or written instructions recorded in **Switching** log books.
- 7.2 Due to the variation of switchgear on the **System** it is impractical to provide detailed **Switching** terminology for each individual piece of **Apparatus**. The terminology to be used **Shall** reflect that recognised and generated by the **SSEN-D** network management system.
- 7.3 The following is **Approved** network management system terminology for **Switching** operations as recorded on **Switching** schedules and **Switching** log book entries:

Table 7.1 - Approved Terminology

	Item Name	Action / State
Switchgear	Open	Open
Switchgear	Close	Close
Switchgear	Close onto Possible Fault	Close when possible Fault on System
Switchgear	Plant Type	Used to denote Operation to be carried out with Plant Dead .
Switchgear	Found Open	Fuse, CB Found Open
Switchgear	Leave Open	Leave Open
Switchgear	Leave Closed	Leave Closed
Switchgear	Open and Apply Isolation	Open & Apply Isolation
Switchgear	Confirm Open Apply Isolation	Confirm Open & Apply Isolation
Switchgear	Remove Isolation Only	Remove Isolation Only
Switchgear	Remove Isolation and Close	Remove Isolation and Close
Switchgear	Remove Isolation Restore to Service	Remove Isolation Restore to Service Position (Ancillary systems)
Switchgear	Earth	Apply Earth
Switchgear	Remove Earth	Remove Earth

PR-NET-OSM-028	Switching Terminology and Approved Abbreviations - Operational Safety Manual - Section 4.4		Applies to	
			Distribution ✓	Transmission
Revision: 1.00	Classification: Public	Issue Date: March 2023	Review Date: March 2028	

	Item Name	Action / State
CB PMCB	Switch to Non-Auto	Switch out Auto reclose function
CB / PMCB	Switch to Auto	Restore Auto reclose function
CB / PMCB	Switch Out SEF	Switch Out SEF
CB / PMCB	Switch in SEF	SEF Restored
PMCB	Disable Protection	Protection Switched Out
PMCB	Restore Protection	Protection Restored
PMCB	Switch Out E/F	Switch Out E/F
PMCB	Switch in E/F	E/F Restored
PMCB	Set for Live Line Working	Set for Live Line working
PMCB	Restore to Auto	Switch OFF Live Line Setting
Earths	Convert to CME	Convert AE to CME
Earths	Revert CME Leave Earth ON	Revert from CME to AE
Solid Links / ASL	Remove Links	Remove Links
Solid Links / ASL	Replace Links	Replace Links
Solid Links / ASL	Remove Links, Apply Isolation	Remove Links apply Isolation
Solid Links / ASL	Confirm open, Apply Isolation	Confirm open and Apply Isolation
Solid Links / ASL	Remove Isolation, Replace Links	Remove Isolation replace Links
Solid Links / ASL	Remove Isolation, Leave Open	Remove Isolation Only
Solid Links / ASL	ASL Operated	Found Open
Fuses	Remove Fuses	Remove HV Fuses
Fuses	Replace Fuses	Replace HV Fuses
Fuses	Remove Fuses, Apply Isolation	Remove HV Fuses apply Isolation
Fuses	Confirm open, Apply Isolation	Confirm open and Apply Isolation
Fuses	Remove Isolation, Replace Fuses	Remove Isolation replace HV fuses
Fuses	Remove Isolation	Remove Isolation only
Fuses	Found Open	Expulsion fuses dropped out
Overhead Lines	Break Jumpers	Break Jumpers
Overhead Lines	Remake Jumpers	Remake Jumpers
Overhead Lines	Break Jumpers, Apply Isolation	Break Jumpers Apply Isolation
Overhead Lines	Confirm Jumpers Broken, Apply Isolation	Confirm Jumpers are Broken, Apply Isolation
Overhead Lines	Remove Isolation, Remake Jumpers	Remove Isolation Remake jumpers
Overhead Lines	Remove Isolation from Jumpers	Remove Isolation from Jumpers
Overhead Lines	Test and Earth	Test and Apply Earth to Line
Overhead Lines	Remove Earth	Remove Earth
Overhead Lines	Jumper Found Broken	Jumpers Found Broken
Live Line	Disconnect Jumpers using LLTs	Break Jumpers
Live Line	Reconnect Jumpers using LLTs	Remake Jumpers

PR-NET-OSM-028	Switching Terminology and Approved Abbreviations - Operational Safety Manual - Section 4.4		Applies to	
			Distribution ✓	Transmission
Revision: 1.00	Classification: Public	Issue Date: March 2023	Review Date: March 2028	

	Item Name	Action / State
Live Line	Disconnect Jumpers using LLTs, Apply Isolation	Break Jumpers, Apply Isolation
Live Line	Confirm Jumpers open, Apply Isolation	Conf Jumpers Open, Apply Isolation
Live Line	Remove Isolation, Reconnect Jumpers using LLTs	Remove Isolation remake jumpers
PM Transformer	Test and Earth	Apply Earth
PM Transformer	Remove Earth	Remove Earth
PM Transformer	Remove LV Fuses	Remove local Transformer LV Fuses
PM Transformer	Remove LV Fuses, Apply Isolation	Remove LV Fuses Apply Isolation
PM Transformer	Apply Local Isolation as Required	Apply Local Isolation as Required for the Work.
PM Transformer	Replace LV Fuses	Replace local Transformer LV Fuses
PM Transformer	Remove Isolation, Replace Fuses	Remove Isolation replace LV fuses
PM Transformer	Confirm Isolation Applied	Confirm open and Apply Isolation
PM Transformer	Remove Isolation	Remove Isolation only
Fused Switch	Replace HV Fuses	Remove & Replace HV Fuses
Primary Transformer	Hand Crank Risk Assessment	Risk Assess
Primary Transformer	Fix Taps	Fix Taps
Primary Transformer	Set Ind Auto	Set Taps to Independent Auto
Primary Transformer	Release Taps	Free Transformer Taps
VT	Isolate VT LV Supplies	Remove LV Fuses, apply Isolation
VT	Restore VT LV Supplies	Remove Isolation Replace LV Fuse
Auxiliary Transformer	Isolate Aux Tx LV supplies	Isolate
Auxiliary Transformer	Restore Aux Tx LV supplies	Remove Isolation and restore
Auto Tap Changer	Out	Fix Taps
Auto Tap Changer	In	Free Taps
Auto Change Over	Switch Out ACO	Switch OUT Auto changeover
Auto Change Over	Switch In ACO	Restore Auto changeover

8 Approved Abbreviations

- 8.1 Where a prepared and **Approved Switching** schedule is used or where written instructions are recorded in a **Switching** log book, and when **Safety Documents** are prepared, abbreviations are not permitted except for those universally accepted as **Approved**. Where multiple entries are made in a **Switching** schedule, **Switching** log book, or **Safety Document**, the use of 'ditto' or 'as above' etc. **Shall not** be permitted.
- 8.2 The following are **Approved** abbreviations for **Switching** operations as recorded on **Switching** schedules, **Switching** log book entries, and **Safety Documents**.

PR-NET-OSM-028	Switching Terminology and Approved Abbreviations - Operational Safety Manual - Section 4.4		Applies to	
			Distribution ✓	Transmission
Revision: 1.00	Classification: Public	Issue Date: March 2023	Review Date: March 2028	

Table 8.1 - Approved Abbreviations

Abbreviation	Reference
ABC	Aerial Bundled Conductor
ABI	Air Break Interrupter
ABSD	Air Break Switch Disconnecter
AC	Alternating Current
ACD	Anti-Climbing Device
ACSR	Aluminium Conductor Steel Reinforced
AE	Additional Earth
Al	Aluminium
AP	Authorised Person
ASL	Automatic Sectionalising Links
A/R	Auto Recloser
ASw	Aerial Switch
Aux	Auxiliary
AVC	Automatic Voltage Control
BBI	Busbar Isolator
BSI	Bus-Section Isolator
CB	Circuit Breaker
CIE	Certificate of Isolation and Earthing
CME	Circuit Main Earth
CNE	Combined Neutral Earth
C/O	Cut-Out
Conc	Concentric Cable (Low Voltage)
Consac	Concentric Neutral Solid Aluminium Conductor (Cable)
CP	Competent Person
CT	Current Transformer
CTC	Control Transfer Certificate
Cu	Copper
DC	Direct Current
DOC	Directional Overcurrent
DOEF	Drop Out Expulsion Fuse
EF	Earth Fault
Fdr	Feeder
FPI	Fault Passage Indicator
FS	Fused Switch
FT	Fault Thrower
GIS	Gas Insulated Switchgear
GM	Ground Mounted
GMT	Ground Mounted Transformer
HV	High Voltage
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
IAD	Insulated Aerial Device

PR-NET-OSM-028	Switching Terminology and Approved Abbreviations - Operational Safety Manual - Section 4.4		Applies to	
			Distribution ✓	Transmission
Revision: 1.00	Classification: Public	Issue Date: March 2023	Review Date: March 2028	

Abbreviation	Reference
Isol	Isolator
Jmpr	Jumper
LB	Link Box
LCU	Local Control Unit
LER	Liquid Earthing Resistor
L/L	Live Line
LLW	Live Line Work
LLT	Live Line Working Techniques
LOA	Limitation of Access
LV	Low Voltage
LVAC	Low Voltage AC (Usually substation supplies)
MDI	Maximum Demand Indicator
MEWP	Mobile Elevated Work Platform
N/A	Non-Auto
NER	Neutral Earthing Resistor
NOP	Normally Open Point
NOP	Network Operating Procedure
Ntwk	Network
OC	Overcurrent
OCB	Oil Circuit Breaker
OFS	Oil Fuse Switch
OH	Overhead
OHL	Overhead Line
OS	Oil Switch
P	Pole
PILC	Paper Insulated Lead Covered (Cable)
PF	Power Factor
PM	Pole Mounted
PMCB	Pole Mounted Circuit Breaker (Note: PMCB Shall be used when referring to all devices of this type, including GVRs, OYTs, NULECs, etc.)
PME	Protective Multiple Earthing
PMT	Pole Mounted Transformer
PNB	Protective Neutral Bond
POI	Point of Isolation
POWRA	Point of Work Risk Assessment
PPE	Personal Protective Equipment
PTW	Permit to Work
PVC	Polyvinyl Chloride (Conductor Insulation)
RCD	Residual Current Device
REF	Restricted Earth Fault
RLY	Relay
RMU	Ring Main Unit
RTU	Remote Terminal Unit

PR-NET-OSM-028	Switching Terminology and Approved Abbreviations - Operational Safety Manual - Section 4.4		Applies to	
			Distribution ✓	Transmission
Revision: 1.00	Classification: Public	Issue Date: March 2023	Review Date: March 2028	

Abbreviation	Reference
SAP	Senior Authorised Person
SBEF	Standby Earth Fault
SCADA	Supervisory Control and Data Acquisition
SCB	Secondary Circuit Breaker
SEB	Sealing End Bell
SEF	Sensitive Earth Fault
SF6	Sulphur Hexafluoride
SFT	Sanction for Test
SNE	Separate Neutral and Earth
SLC	Safety Lock and Caution Notice
S/S	Substation
STA	Steel Tape Armour (Cable)
SWA	Steel Wire Armour (Cable)
Supy	Supervisory
SW	Switch
T	Tower
T'd	Teed
T/O	Tee Off
TP	Terminal Pole
TT	Terminal Tower
Tfr	Transformer
Tx	Transformer
UAD	User Authorisation Document
UDB	Underground Disconnecting Box (Link Box)
VCB	Vacuum Circuit Breakers
VIR	Vulcanised Indian Rubber (Conductor Insulation)
VPIS	Voltage Presence Indicator System
VT	Voltage Transformer
XLPE	Cross-linked Polyethylene (Conductor Insulation)

NOTE: All substation, switch and feeder names **Shall** be written in full, without abbreviation, except for universally accepted abbreviations for Road (Rd), Street (St), Avenue (Ave), etc.

9 Revision History

No	Overview of Amendments	Previous Document	Revision	Authorisation
01	New document created	TBC	1.00	Richard Gough
02				