



SWITCHING SCHEDULES AND SWITCHING LOG BOOKS

OPERATIONAL SAFETY MANUAL - SECTION 2.7

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1 Introduction

- 1.1 To secure the safety of persons working on the **SSEN-D High Voltage System** and also the continuity of electricity supplies, it is essential that all activities carried out on the **High Voltage System** are effectively planned, controlled and coordinated.
- 1.2 The use of **Switching Schedules** and **Switching Log Books** form a safe system of work for operations associated with the **SSEN-D High Voltage System** and on occasions, the **Low Voltage System**.
- 1.3 This **Approved** procedure provides guidance on the management and use of **Switching Schedules** and **Switching Log Books**.

2 Scope

- 2.1 This **Approved** procedure will provide sufficient guidance to staff who are authorised to carry out **Switching** on the **SSEN-D High Voltage System** on the correct use of **Switching Schedules** and **Switching Log Books**.
- 2.2 This **Approved** procedure will provide guidance on the auditing requirements for **Switching Schedules** and **Switching Log Books**.
- 2.3 This **Approved** procedure applies to all staff and contractors working for or on behalf of **SSEN-D**.

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
PR-NET-OSM-028	Switching Terminology and Approved Abbreviations - Operational Safety Manual – Section 4.4
PR-NET-OSM-042	Lost Operational Documents and Keys - Operational Safety Manual - Section 5.4
WI-NET-TRG-019	Distribution Control Engineer Training Manual (Scotland)
WI-NET-OSM-002	Personal Protective Equipment and Workwear for Live Environments
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. Definitions used within this **Approved** procedure are defined within the list presented immediately below, or within Section 2 of the **OSR**.
- 4.2 Switching Logbook
Logbook of an **Approved** type used by an **Authorised** or **Senior Authorised Person** to log field operations on, and pertinent information in relation to, the **SSEN-D High Voltage System** and on occasions, the **Low Voltage System**.

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4.3 Switching Schedule

Program of steps in an **Approved** format to be carried out by an **Authorised / Senior Authorised Person**, or **Control Engineer** when carrying out operations on the **SSEN-D High Voltage System** and on occasions, the **Low Voltage System**.

4.4 Operational Safety Rules (OSR)

The **SSEN-D** Distribution set of rules, as read with related documents and procedures, that provide generic safe systems of work on the **System** therefore ensuring the health and safety of all who are liable to be affected by any **Danger** that might arise from the **System**.

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 Records

7.1 The safe custody of **Switching Schedules** and **Switching Log Books** rests with the **Authorised** or **Senior Authorised Person**, who **Shall** retain them in their possession whilst work is being carried out.

7.2 Any **Switching Schedules** and **Switching Log Books** **Shall** be returned for audit purposes, in line with the requirements of PR-NET-OSM-042 - Lost Operational Documents and Key - Operational Safety Manual - Section 5.4.

8 Personal Protective Equipment

8.1 Persons who are required to work or carry out **Switching** on or near the **System**, **Shall** wear suitably **Approved** Personal Protective Equipment (PPE). Furthermore, where warning labels or signs identify the existence of a particular hazard, additional and appropriate PPE **Shall** be worn.

8.2 As a minimum, PPE **Shall** meet the requirements of WI-NET-OSM-002.

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9 General Requirements

9.1 Before work or **Switching** on the **SSEN-D High Voltage System** can commence, there is a requirement to carry out effective planning and liaison and also provide suitable and sufficient information on any proposed **System** alterations.

NOTE: Emergency **Switching** requirements are covered in Clause 10.4.

9.2 For work on the **High Voltage System**, where reasonably practicable an **Approved Switching Schedule Shall** be prepared.

9.3 Where an **Approved Switching Schedule** has been prepared, this **Shall**, where reasonably practicable, be made available to all persons carrying out **Switching** operations or issuing **Safety Documents** associated with that activity.

9.4 Where it is not reasonably practicable to comply with the requirements of Clause 9.2 then any **System** related work or **Switching**, **Shall** only be initiated following a preamble and agreement with the **Control Engineer** that conveys sufficient information to ensure the work or operations are carried out safely and effectively.

9.5 Typical activities where the requirements of Clause 9.2 might not be required include:

- Immediate fault response and repair activities
- Immediate response to a dangerous situation

9.6 The planning and liaison process **Shall**, where requested by the Outage Planning Team, include any contingency arrangements such that for a credible **System** event, customer supplies can be restored within a specific time.

9.7 It is recognised that in some situations there will be requests for emergency / unplanned works. Where this is identified between three weeks and one week of the planned start date then this **Shall** be agreed with the relevant Control Centre. Where the request is within a week of the required outage then this should be agreed with the **Control Engineer**.

9.8 Where an Emergency / unplanned works Outage Request is agreed, then there is no requirement for an **Approved Switching Schedule** to be produced. All work and **Switching Shall** be carried out in line with the requirements of the **OSR** and the **SSEN-D Operational Safety Manual**.

9.9 Immediate actions required by **Switching** to make the **System** safe or to restore customer supplies may be carried out either by the **Control Engineer** or by a suitably **Authorised Person** following a pre-ambule with, and formal **Switching** instruction from, the **Control Engineer**. Any such operations and / or pertinent information **Shall** be logged in a **Switching Log Book** by the **Authorised Person**.

NOTE: Any operations carried out solely by the **Control Engineer** that do not affect the **Authorised Person Shall** be logged in the Network Management System.

9.10 Where further repair work is required that will take in excess of 48 hours, or before the return of Field Control, the **Senior Authorised Person Shall**, where reasonably practicable, provide the Control Centre with progress updates and any proposed diagram updates prior to any planned return to service.

9.11 There is no longer a mandatory requirement to note **Safety Documents** in the **Safety Document** log (Figure 9.1). **Safety Documents Shall** be recorded in the **Switching Schedule** or **Switching Log Book** as detailed in this procedure. Notwithstanding, the **Authorised Person** may fill this in, if it is of benefit to them.

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SSE H.V. Safety Document Log					Fault/Job/Schedule No:	Date:		
Type	Number	HV Equipment covered:	Work to be carried out	Issue Time	Issue Date	Cancel Time	Cancel Date	Controller
				Issued To	Issued By	Cancelled by		
Type	Number	HV Equipment covered:	Work to be carried out	Issue Time	Issue Date	Cancel Time	Cancel Date	Controller
				Issued To	Issued By	Cancelled by		
Type	Number	HV Equipment covered:	Work to be carried out	Issue Time	Issue Date	Cancel Time	Cancel Date	Controller
				Issued To	Issued By	Cancelled by		
Type	Number	HV Equipment covered:	Work to be carried out	Issue Time	Issue Date	Cancel Time	Cancel Date	Controller
				Issued To	Issued By	Cancelled by		
Type	Number	HV Equipment covered:	Work to be carried out	Issue Time	Issue Date	Cancel Time	Cancel Date	Controller
				Issued To	Issued By	Cancelled by		
Type	Number	HV Equipment covered:	Work to be carried out	Issue Time	Issue Date	Cancel Time	Cancel Date	Controller
				Issued To	Issued By	Cancelled by		
Type	Number	HV Equipment covered:	Work to be carried out	Issue Time	Issue Date	Cancel Time	Cancel Date	Controller
				Issued To	Issued By	Cancelled by		

Figure 9.1 - Safety Document Log

9.12 Pages of **Switching Schedules** and **Switching Log Books**, **Shall** be sequentially numbered. Fixed pages **Shall not** be removed.

10 Switching

10.1 Preparation for Switching

10.1.1 When **Switching** instructions are issued by the **Control Engineer**, they **Shall** be recorded, giving:

1. The **Switching Schedule** number
2. Sequential item number of the operation
3. The name of the location (including voltage, if appropriate) at which the **Switching** is to be carried out
4. The identification and nomenclature of the **Apparatus** involved
5. Details of the intended operation
6. Identification of the **Authorised Person** carrying out the operation
7. Identification of the **Control Engineer** issuing the instruction
8. The time the instruction was issued

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9. The date the instruction was issued, the date **Shall** be recorded on the first instruction

NOTE: There is no requirement to record the date again unless an instruction is given on a different date, which **Shall** again be recorded against the first instruction of that day.

10.1.2 The **Control Engineer** issuing the **Switching** instructions **Shall** take account of all the likely consequences of the proposed operations.

10.1.3 The normal sequence of instructions **Shall** be such that all the **Switching** causing the **Apparatus** to be **Isolated** from all points of supply is confirmed as having been completed before the **Control Engineer** issues any further instructions.

10.1.4 Once the **Control Engineer** has received confirmation that all points of isolation have been established, the **Control Engineer** may instruct the **Authorised Person** carrying out the **Switching**, to apply the **Circuit Main Earths** at the required positions.

The completion of the application of **Circuit Main Earths Shall** be confirmed back to the **Control Engineer** before they consent to the issue of a **Safety Document**.

10.1.5 When the circuit is being restored, the **Control Engineer** may, at their discretion, instruct at the same time, and as two consecutive instructions:

- Agreement for the operation associated with the cancellation of the **Safety Document** to be completed by the **Senior Authorised Person**; and
- The removal of all relevant **Circuit Main Earths**.

The completion of these two sequences of operations **Shall** be confirmed back to the **Control Engineer** before any instructions to remove isolation are given by the **Control Engineer**.

Confirmation of completion of the removal of isolation **Shall** be received before instruction is given to make the circuit **Live**.

NOTE: The preferred method of operating is detailed above; it is however permissible after assessing time, work, and other constraints, for the **Control Engineer** to consent to the completion of a block of operations spanning isolation earthing and **Safety Document** issue/ cancellation, providing the order of operations is confirmed, no issues are experienced, and the operations are completed without any deviation/ compromise from the agreement with the **Control Engineer**.

10.1.6 Where **Switching** requires the involvement of a Transmission Company then all the **Switching** required to disconnect **Apparatus** from the **System Shall** be carried out before the instructions for isolation can be given.

10.1.7 **Switching** instructions **Shall** be given as detailed below:

- A dialogue **Shall** take place before commencing **Switching** when a **Competent Person**, under **Personal Supervision** is receiving instructions during training, or, when an **Authorised Person** is **Switching**, explaining the purpose of the subsequent operations
- They **Shall** follow the sequence identified in Clause 10.1.1
- Separate operations **Shall** be individually itemised, i.e., Open & apply isolation and **Earth**” should be two separate operations.
- Any known operational restrictions relating to the switchgear **Shall** be communicated at this stage.

10.1.8 The **Control Engineer Shall** record the name of the **Authorised Person**, and other person if appropriate, who is instructed to carry out the operations.

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- 10.1.9 The **Authorised Person** receiving the **Switching** instruction **Shall**, after recording the information including the name of the **Control Engineer** issuing the instruction, read it back in full to the **Control Engineer** to confirm it was accurately received.
- 10.1.10 A **Switching Schedule** or **Switching Logbook** **Shall** be used to record the **Switching** instruction. Where a **Switching Schedule** is used, instructions may be given by referring to numbered items listed in the schedule. When the schedule has been amended, the amendment **Shall** be read out in full and agreed before the **Switching** commences.
- 10.1.11 Minor amendments may be noted on the **Switching Schedule**. More detailed amendments should be noted in a **Switching Logbook** with suitable cross references between each document.
- 10.1.12 The use of pre-prepared and **Approved Switching Schedules** will avoid the need for the **Control Engineer** and the **Authorised Person** to write down **Switching** instructions in full and they will form part of the Control Log.
- 10.1.13 The use of abbreviations in operational discussions and documents is optional but if abbreviations are used in an operational context, they **Shall** comply with the standard list given in PR-NET-OSM-028 Switching Terminology and Approved Abbreviations - Operational Safety Manual – Section 4.4.

10.2 Switching Operations

- 10.2.1 The **Authorised Person** **Shall** carry the **Switching Schedule** or **Switching Logbook** with them to the point at which the **Switching** is to be carried out, for reference on site.
- 10.2.2 The operator **Shall** ensure that full concentration is maintained prior to and during **Switching** operations and that positive efforts are taken to ensure minimum distractions during these operations.
- 10.2.3 Place keeping in the **Switching Schedule** or **Switching Log Book** is essential in ensuring that the correct operations are undertaken in the correct order, and only when issued by the **Control Engineer**. The **Authorised Person** carrying out the operations **Shall** ensure they use a reliable method to achieve this.
- 10.2.4 Telephone communications whilst **Switching** are not permitted unless directly associated with the operations being completed. Communication with the **Control Engineer** whilst **Switching** may be maintained by mutual agreement between the **Control Engineer** and **Authorised Person**.
- 10.2.5 The following hierarchy **Shall** be used to operate **Apparatus**. The final method of operating **Shall** be agreed between the **Control Engineer** and the **Authorised Person**:
1. Remotely via telecontrol.
 2. Remote operating panels in a separate room to the **Apparatus**.
 3. Remote operating panels in the same room as the **Apparatus**.
 4. Via an **Approved** lanyard operating system where reasonably practicable.
 5. At the immediate location of the **Apparatus**.

NOTE: Where **Apparatus** has been operated remotely and the **Authorised Person** is on site, they **Shall** visually confirm the correct operation has taken place.

- 10.2.6 When carrying out the **Switching** instructions, the **Authorised Person** **Shall** observe the requirements shown in Figure 10.1.

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Switching on the Network - Key Reminders:

CHECKS:

- Correct Substation? **Check!**
- Correct Switch? **Check!**
- Correct Operation? **Check!**

YOUR SAFETY:

- Parked safely?
- Hard Hat and Rubber Gloves?
- Safe access to site and switchgear?
- Switchgear fault-rated and in sound condition?
- Take your mobile (but don't be distracted)

GENERAL:

- Write down and read back switching instructions. Take them with you. Check switch position before operating.
- Don't use excessive force and don't defeat interlocks. If unsure stop and check again.
- Check operation complete: "ON-OFF-EARTH" indications, contacts visibly closed, locks applied.
- Report back to control.

Figure 10.1 - Switching Reminders

- 10.2.7 The **Authorised Person Shall** have with them the written instruction, consulting them and checking that they are about to operate the correct **Apparatus**. They **Shall** also confirm that:
- They are at the correct location
 - The **Apparatus** does not show any signs of distress
 - The **Apparatus** is fit for service, i.e., adequate gas pressure or sufficient oil, no signs of distress
 - The **Apparatus** is clearly identified, and as expected
 - The **Apparatus** is in the expected operational position
 - Any interlocks or selectors are in the correct position for the intended operation
 - They have clear unimpeded egress away from the **Apparatus**
- 10.2.8 Where circuit identification labels are not as expected and do not match that of the **Switching** instruction, the **Control Engineer Shall** be consulted prior to removing any locks or commencing any operation. Only when correct identification is assured **Shall Switching** continue. The field operative **Shall** fit a suitable temporary label and arrange for the correct permanent label to be fitted as soon as possible.
- 10.2.9 The **Authorised Person** should then STOP and CHECK their proposed action:
- Am I operating the correct **Apparatus** / circuit?
 - What is the operation?
 - What am I physically doing to the network when I operate the **Apparatus**?
- 10.2.10 After carrying out each operation the **Authorised Person Shall** record the time the operation was carried out and check by all means readily available, that the intended operation has been satisfactorily completed.

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- 10.2.11 All **Switching Shall** be carried out on the principle of the removal of the minimum number of locks necessary to permit only one operation at a time. Locks **Shall** only be removed immediately prior to operation and be replaced immediately afterwards.
- 10.2.12 When **Apparatus** opens under fault conditions, the **Authorised Person Shall** cancel any audible alarms and immediately report to the **Control Engineer** the time of the operation (if known) and details of any available relay indications. These details **Shall** be recorded in a **Switching Schedule** or **Switching Log Book**. If any relay indications are not available at the substation, the **Authorised Person Shall** report this to the **Control Engineer**, who will decide where these indications are to be obtained.
- 10.2.13 When the **Control Engineer** gives instructions to re-energise a circuit which has opened under fault conditions, the **Authorised Person** receiving the instruction **Shall** confirm with the **Control Engineer** which relay flags require resetting before attempting to operate any **Apparatus**. These operations **Shall** be recorded in a **Switching Schedule** or **Switching Log Book** and where relevant the Substation log book.

10.3 Procedure Following Switching

- 10.3.1 The **Authorised Person Shall** report back to the **Control Engineer** the operations carried out and the time of completion without undue delay using a similar protocol to that detailed in Clause 10.1.7. Any instructions that were not carried out, for whatever reason, **Shall** be notified to the **Control Engineer** and the reason recorded.
- 10.3.2 The **Control Engineer Shall** record the completion of the **Switching**, and **Shall** give the **Authorised Person** the time of confirmation. They **Shall** also acknowledge by repeating any relevant additional information passed to them by the **Authorised Person**. The **Authorised Person Shall** record the name of the **Control Engineer** and the time of confirmation.

NOTE: If the **Control Engineer** that the operations are confirmed to is different to the **Control Engineer** that issued the instructions, an additional name **Shall** be included in the 'Controller' or 'Directed By' section of the **Switching Schedule** or **Switching Log Book**.

- 10.3.3 All hand-written entries **Shall** be written legibly and indelibly and the records, with copies of **Switching** instructions, which will form part of the Control Log, retained in accordance with the **Approved** procedure detailed in PR-NET-OSM-042 - Lost Operational Documents and Key - Operational Safety Manual - Section 5.4.

10.4 Emergency Switching

- 10.4.1 Emergency **Switching** is that **Switching** carried out without reference to the **Control Engineer** to prevent **Danger** to staff or the public.
- 10.4.2 When Emergency **Switching** takes place, this **Shall** be logged and reported to the **Control Engineer** as soon as practicable in accordance with **OSR** 3.5.1 and 3.5.6.

11 Use of Switching Schedules and Switching Log Books

11.1 General Requirements

- 11.1.1 **Switching Schedules** and **Switching Log Books Shall** be of an **Approved** design, see Figure 11.1, and Appendix A.

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SSE H.V. Switching Log (Faults / Unplanned work)					Fault/Job/Schedule No:	Date:		
Location/Work:						Page	of	
Item No	Location	Operation	Circuit/Equipment	Switched by	Operating Times			Controller
					Instruct	Carried Out	Confirm	

Figure 11.1 - Switching Schedule

11.1.2 **Switching Schedules Shall**, where practicable, be prepared, reviewed, **Approved**, and issued through the **SSEN-D** Network Management System (Sections 11.2 & 11.3).

NOTE: **Switching Schedules** generated by the Network Management System may vary in format from Figure 11.1, however the column headings will remain the same.

11.1.3 Each page of a **Switching Schedule** or **Switching Log Book Shall** show the schedule number (S), fault number (F) or Job relating to the operations recorded on them. Each new job **Shall** start on a new page.

NOTE: **Approved Switching Schedules** also have a job number (J) generated by the Network Management System, this is used as reference for **Safety Documents**.

11.1.4 For **Switching Log Books**, the date **Shall** be recorded on the first page of the operations, there is no mandatory requirement to repeat the date across further pages unless the operations span a number of days, or a different job is started.

11.1.5 There is no mandatory requirement to complete the 'Location / Work' field in **Switching Log Books**, however the **Authorised Person** may fill this in, if it is of benefit to them.

11.1.6 Any amendments subsequently made to **Approved** items on a **Switching Schedule Shall** be agreed between the **Authorised Person** and the **Control Engineer** in advance of the instruction being issued and noted on the **Switching Schedule**. All amendments **Shall** be initialled by the **Authorised Person**.

11.1.7 Where it is agreed that an instruction is not to be carried out, the corresponding instruction **Shall** be neatly crossed out so that the original instruction is still visible, but it is clear that it is not to be carried out. All deletions **Shall** be initialled by the **Authorised Person**.

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11.1.8 **Switching Schedules** and **Switching Log Books Shall**, where practicable, be completed in black or blue ink. Pencil **Shall not** be used.

11.2 Schedule Preparation

11.2.1 The preparation of **Switching Schedules Shall** be carried out by at a minimum, an **Authorised Person** with depot scheduler access in the Network Management System.

11.2.2 **Switching Schedules Shall** be prepared within the Network Management System.

11.2.3 **Switching Schedules Shall**, where practicable, be in a logical order, in the sequence that operations are intended to be carried out.

11.2.4 On more complex jobs or where multiple **Authorised Persons** are carrying out operations, consideration should be given to the **Switching Schedule** containing 'confirmation lines' for the **Authorised Person** and **Control Engineer** to confirm the current state of the **System** prior to key points in operations, such as:

- After all isolations are complete and prior to installing the first **Circuit Main Earth**
- Prior to issuing **Safety Documents**

11.2.5 Where during the course of the work, the state of the **Plant** or **Apparatus** has been changed, e.g., **Plant** maintenance or looping in a new substation, the state **Shall** be confirmed prior to further operations taking place.

11.2.6 A confirmation line **Shall** be included prior to any operation that re-energises part of the **High Voltage System**.

11.2.7 PSI (Planned **System** Interruption) details and details required for any patches that need to be applied to the Network Management System **Shall** be included when submitting a **Switching Schedule** for approval. Where required, estimated load transfer levels and associated minimum conductor sizes **Shall** also be included.

11.3 Schedule Approval

11.3.1 Pre-checked **Switching Schedules Shall** be submitted in advance for approval.

11.3.2 Once submitted, **Switching Schedules Shall** be reviewed by a **Control Engineer**. Once reviewed they **Shall** either be:

- **Approved**, issued a schedule number and locked in the **Approved** status within the Network Management System, or
- returned to originator, still in a created status, for amendment and resubmission. The **Control Engineer Shall** inform the originator of the reasons it was not **Approved** and provide relevant notes to support this, communication between the **Control Engineer** and the originator is essential to this process.

11.3.3 An **Approved schedule** is the final version and may not be amended by the originator.

11.3.4 Should a major amendment to the **Switching Schedule** be needed due to a change in the scope of the work or the state of the **System** altering, a **Control Engineer** may amend it. This process will change the status of the **Switching Schedule** to pre-checked and it is no longer **Approved**. Any changes made by the **Control Engineer Shall** subsequently be **Approved**, changing the 'S' (Schedule) number of the **Switching Schedule** but not the 'J' (Job) number. Upon approval of the modified **Switching Schedule**, the originator **Shall** be informed. All changes to Schedules made by the **Control Engineer Shall** be noted in the comments section of the **Switching Schedule**.

11.3.5 Additional minor amendments may be added by a **Control Engineer**, shown as a subsection of the whole number they relate to, i.e., 10.1, 10.2 etc. This will not lead to a

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change in the 'S' number. The originator **Shall** be informed of any minor amendments to the **Switching Schedule**. All changes to Schedules made by the **Control Engineer Shall** be noted in the comments section of the **Switching Schedule**.

11.4 Item Number

- 11.4.1 Item numbers **Shall** be sequential, should additional items need to be included outside of the original sequential whole numbers, these **Shall** be decimally appended, sequentially from '.1', with the item number from where the amendment starts, i.e., 9.1, 9.2 etc.
- 11.4.2 Minor amendments may be included on the original page, however if several operations are required, these **Shall** be recorded in a separate page of the **Switching Log Book**, suitably cross referenced as to avoid confusion.

11.5 Location

- 11.5.1 The location field **Shall** record the location of the **Apparatus** that is to be operated.
- 11.5.2 Where the location is a substation or Switching station, the full name of the substation or **Switching** station **Shall** be used.
- 11.5.3 Where the location is a pole, the pole number prefixed with 'P' **Shall** be used, e.g., P147. If the location is between poles, both poles **Shall** be recorded, e.g., P76 – P77, or P76 towards P77 etc.
- 11.5.4 Where the location is a tower, the tower number prefixed with the circuit designation and the tower number **Shall** be used, e.g., MF 311. If the location is between towers, both towers **Shall** be recorded, e.g., MF211 – MF212.
- 11.5.5 In the absence of **System** nomenclature to clearly identify assets, geographic references may be used to support the identification of a location on the Network.

11.6 Operation

- 11.6.1 The operation field **Shall** record the specific operation to be carried out on the **Apparatus**.
- 11.6.2 Generally, only one operation should be included per item, however if several operations need to be carried out to achieve a desired result they may be combined, e.g., 'Remove Isolation and Close', 'Confirm Open and Apply Isolation', etc.
- 11.6.3 The operations field **Shall not** contain information relating to the type of **Apparatus**, e.g., 'Close CB', or 'Open F/SW' etc.
- 11.6.4 When issuing or cancelling **Safety Documents**, the operation field **Shall** be used to record if the **Safety Document** is Issued or Cancelled.

11.7 Circuit ID / Equipment

- 11.7.1 When operating underground **Apparatus**, the circuit ID / equipment field **Shall** be used to record the name, voltage, and type of **Apparatus** that is to be operated, e.g., Forth Banks 11kV CB, Local Transformer, 101 33kV ABI, etc.
- 11.7.2 When operating overhead **Apparatus**, the circuit ID / equipment field **Shall** be used to record the name of the circuit the **Apparatus** is connected to or **Apparatus** name, voltage, and type of **Apparatus** that is to be operated, e.g., Balamoray – Portmerion 11kV Spur, 11kV AB P102, etc.
- 11.7.3 This field may be used for free text or prompts when used in conjunction with steps the **Control Engineer** might need to complete that don't directly relate to **System** operations,

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although instances of this should be kept to a minimum so as not to distract from the **System** operations.

- 11.7.4 When issuing or cancelling **Safety Documents**, the circuit ID / equipment field **Shall** be used to record the **Safety Document** number.
- 11.7.5 Although not a mandatory requirement, when issuing **Safety Documents**, the **Senior Authorised Person** might record the work / testing to be carried out, and/or the name of the document recipient in this field.

11.8 Switched By and Directed By / Controller

- 11.8.1 These fields **Shall** be used to record the **Authorised Person** carrying out the operation and the **Control Engineer** who issued the instruction.
- 11.8.2 The first operation **Shall** record the full name of the **Authorised Person** and the **Control Engineer**, subsequent operations may use initials. Should the **Authorised Person** or **Control Engineer** change during the course of the operations, a full name **Shall** be used again to show this.
- 11.8.3 When **Switching** operations are carried out under supervision for training purposes, both names **Shall** be recorded for every operation carried out under supervision (see Section 12).
- 11.8.4 When issuing or cancelling **Safety Documents**, the names of the **Senior Authorised Person** and the **Control Engineer** **Shall** be recorded.
- 11.8.5 NOTE: If the 'Directed By' field on **Approved Switching Schedules** contains a pre-populated name, this **Shall** be crossed out and the correct name of the **Control Engineer** used in its place.

11.9 Operating Times

- 11.9.1 All operating times **Shall** be recorded in the 24-hour clock format (hh:mm).
- 11.9.2 Instructed times **Shall** be recorded against each operation when they are issued by the **Control Engineer**. In the case of block issue of instructions, it is permissible to note the time against the initial instruction and annotate in such a way that it is clear to the **Authorised Person** which instructions have been issued at this time.
- 11.9.3 Carried out times **Shall** be recorded against each operation individually by the **Authorised Person**, as soon as is reasonably practicable after the successful completion of the operation. Accurate completion of carried out times, in association with the instructed times will assist with reliable place keeping by the **Authorised Person**.
- 11.9.4 Confirmation times **Shall** be recorded by the **Authorised Person** after the **Control Engineer** has agreed confirmation of the operations. In the case of block confirmation of operations, it is permissible to note the time against the initial operation being confirmed and annotate in such a way that it is clear to the **Authorised Person** which operations have been confirmed at this time.
- 11.9.5 All times noted **Shall** be notified and agreed by the **Authorised Person** and the **Control Engineer**.

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12 Persons Operating Under Training

- 12.1 Any person carrying out operations on the **System** under supervision for training purposes, **Shall** hold the relevant authorisation(s). The supervision provided **Shall** be **Personal Supervision**.
- 12.2 Whether it is the trainee **Control Engineer** or the trainee **Authorised Person** who is under supervision, prior to initiating operations, it **Shall** be established during the preamble who is carrying out operations under supervision, and who is providing supervision. This **Shall** be logged in the Network Management System and the **Switching Schedule** or **Switching Log Book**.
- 12.3 Where practicable, a trainee **Control Engineer** and trainee **Authorised Person** **Shall** not communicate directly on a job.
- 12.4 For trainee **Control Engineers** carrying out operations under supervision, it **Shall** be identified to the **Authorised Person** the name of the **Control Engineer** providing **Personal Supervision**:
- The **Control Engineer** supervising the trainee is at all times responsible for the **System**
 - The **Authorised Person** **Shall** clearly identify on the **Switching Schedule** or **Switching Log Book** that operations are being issued under supervision, and the name of the **Control Engineer** providing the supervision
 - Trainee **Control Engineers** **Shall** reference jobs carried out under supervision in their training log
- 12.5 For field operations under supervision, the trainee **Shall** complete the **Switching Schedule** or **Switching Log Book** under the **Personal Supervision** of the **Authorised Person**.
- The person under supervision **Shall** clearly identify on the **Switching Schedule** or **Switching Log Book** that operations are being carried out under supervision, and the name of the **Authorised Person** providing the supervision. The 'Switched By' field **Shall** contain the name of the person carrying out the operation and the name of the **Authorised Person**.
 - Once complete, this **Switching Schedule** or **Switching Logbook** **Shall** be retained in line with the requirements of Clause 7.2. The trainee **Shall** photocopy the completed **Switching Schedule** or **Switching Logbook** and retain a copy for their training record

13 Revision History

No	Overview of Amendments	Previous Document	Revision	Authorisation
01	New document created	NA	1.00	Richard Gough
02	Minor revisions made	PR-NET-OSM-017 (Rev1.00)	1.01	Richard Gough
03				

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Appendix A Switching Schedule Example

Table A.1

Switching Log				Job No:	Date:		Controller
Location	Circuit Reference	Operation	Switched by	Operating Times			
				Instruct	Carried Out	Confirm	