PR-NET-OSM-088

MANAGEMENT OF INTERFACE ACTIVITIES - DISTRIBUTION CODE

OPERATIONAL SAFETY MANUAL - SECTION 13.6

Scottish & Southern Electricity Networks

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CONTENTS

1 Introduction

1.1 This document specifies the procedures to be followed to ensure the correct co-ordination, establishment and maintenance of **Safety Precautions** when work is to be carried out on or near to the **Operational Boundary** between the **SSEN-D System** and the **System** of another Distribution Network Operator (DNO) or if work is required on an adjacent DNO's **System** which requires the provision of **Safety Precautions** on **High Voltage Apparatus** on the **SSEN-D System**.

1.2 When work is carried out at or near these interface points, either by **SSEN-D** or by the interfacing DNO, it is essential to have a robust procedure to formally document any **Switching** requests or other agreements made between each party to ensure **Safety from the System**.

1.3 Typically, there will be two or more Control entities operating and liaising across the **Operational Boundary** between **SSEN-D** and any other DNO and this needs to be carefully managed and operated.

1.4 The purpose of this **Approved** procedure is to identify and document the appropriate methods of achieving **Safety from the System** when work on or near the **Operational Boundary** of another DNO requires the provision of **Safety Precautions** on **High Voltage Apparatus** on the interfacing DNO's **System** or vice versa.

1.5 This **Approved** procedure gives guidance for the operational safety provisions required across the **Operational Boundary** between **SSEN-D** and interfacing DNOs and ensures that employees and those working on behalf of **SSEN-D** who carry out work at or near these interfaces are provided with sufficient guidance on the documentation and procedures required to ensure that all necessary **Safety Precautions** are established, coordinated and maintained for the duration of the relevant work, so as to ensure their own safety and the safety of personnel working for the interfacing DNO and the general public.

1.6 Compliance with this **Approved** procedure will ensure compliance with Distribution Code DOC8 in the event of any work or operations being required at or near the **Operational Boundary** with an interfacing DNO.

1.7 For DNO to DNO interfaces, there is no requirement to comply with Grid Code OC8, however, compliance with OC8 will in itself ensure compliance with the requirements of the Distribution Code as regards safety coordination across an **Operational Boundary**.

2 Scope

2.1 This **Approved** procedure only relates to the requirements for the management of safety procedures at or near DNO to DNO interfaces, i.e. between **SSEN-D** and other, usually adjacent, DNOs connected to the **SSEN-D System** at **High Voltage**.

2.2 It applies to all persons employed by or working on behalf of **SSEN-D**.

2.3 This **Approved** procedure is provided to help ensure that employees and contractors are provided with all the necessary information to ensure that any work or operations at or near the **Operational Boundary** between **SSEN**s **System** and the **System** of another DNO are carried out safely and correctly, so as to comply with the Distribution Code, **SSEN-D Operational Safety Rules (OSR)** and all other relevant legal and industry regulatory obligations.

2.4 The scope of this document relates to:

- Distribution **Systems** at **High Voltage** up to 132 kV controlled by an **SSEN-D** Control Centre.

- Interfaces with DNO **Networks** connected to the **SSEN-D System**.

2.5 This scope does not apply to:

- Interfaces with Transmission Companies which are covered by PR-NET-OSM-089 Management of Interface Activities – Grid Code - Operational Safety Manual – Section 13.7.
- Interfaces with Network Rail, which are covered in PR-NET-OSM-087 Management of Activities at the Interface with High Voltage Customers - Operational Safety Manual – Section 13.5 or where access is required for **SSEN-D** work carried out under a NR Possession or Line Block.
- Assets of other DNOs beyond any interface with **SSEN-D Systems**
- Interfaces with **SSEN-D** owned **Networks** embedded in other **Systems**, as these will be covered by the interface procedures of the relevant host DNO
- Interfaces with Independent Distribution Network Operators (IDNOs) and any customers' **Networks**, which are covered in PR-NET-OSM-086 Management of Activities at the Interface with Independent Distribution Network Operators - Operational Safety Manual – Section 13.4, and PR-NET-OSM-087 Management of Activities at the Interface with High Voltage Customers - Operational Safety Manual – Section 13.5
- General on-site safety requirements, procedures and working practices, which are covered in other **Approved** procedures

3 References

The documents detailed in Table 3.1 - Scottish and Southern Electricity Networks Documents, and Table 3.2 - External 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-025	Network Operating Procedures - Operational Safety Manual – Section 4.1
PR-NET-OSM-086	Management of Activities at the Interface with Independent Distribution Network Operators - Operational Safety Manual – Section 13.4
PR-NET-OSM-087	Management of Activities at the Interface with High Voltage Customers - Operational Safety Manual – Section 13.5
PR-NET-OSM-089	Management of Interface Activities – Grid Code - Operational Safety Manual – Section 13.7
PR-NET-OSM-021	System Operations and Transfer of System Control Responsibilities – Operational Safety Manual – Section 2.11
WI-NET-OSM-002	Personal Protective Equipment and Workwear for Live Environments
WI-PS-886	Perth Network Management Centre Working at Control Boundaries
PR-PS-007	Operations and Work by SSE Staff on Users HV / EHV Networks
PR-NET-ENG-031	Procedure to Change Control and Safety Rule Boundaries
FO-PS-181	User Authorisation Document
N/A	SSEN SHE Handbook (Held in Safety, Health and Wellbeing SharePoint Site)

Table 3.2 - External Documents

Reference	Title
ESQCR	Electricity Safety, Quality and Continuity Regulations 2002 (as amended)
Grid Code	OC 8 – Safety Coordination
Distribution Code	DOC 8 – Safety Coordination

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 **Operational Safety Rules (OSR).**

4.2 **Network**

An interconnected electricity distribution **Network** at any voltage connected to the **SSEN-D System**.

4.3 **Operational Boundary**

The point between two **Systems** at which operational responsibility (and usually ownership) changes from one **party to another.**

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**.

4.5 **Safety from the System**

A condition which safeguards persons when work is to be carried out on or near a **System** from the **Dangers** which are inherent in the **System**.

4.6 **Safety Precautions**

Precautions such as isolation and / or **Earthing**, locking off, rendering inoperative, etc. of **Apparatus** to achieve **Safety from the System**.

4.7 **Site Responsibility Schedule (SRS)**

A schedule, agreed between two or more parties, setting out the ownership, control and operational responsibilities of each item of **Apparatus** at sites with an **Operational Boundary**, as detailed in Distribution Code (DOC 8).

5 General Responsibilities

5.1 All duties related to the operational interface with another DNO **Shall** be carried out in compliance with this **Approved** procedure, WI-PS-886, PR-PS-007, PR-NET-ENG-031 and **OSR**.

5.2 The procedures and instructions in this **Approved** procedure **Shall** only be carried out by suitably trained and **Authorised Persons**.

5.3 Employees **Shall** ensure that at all times, whilst carrying out any work or operations associated with an interface with another DNO, **General Safety** arrangements are maintained and that other employees, including those of the interfacing DNO, any contractors and members of the general public are not adversely affected by any such works or operations.

5.4 **OSR** 9.5 'Responsibilities of **Control Engineers'** include consulting with **Control Engineers** of other **Systems** to agree and initiate **Switching** where there is interconnection across **Operational Boundaries** and also agreeing responsibility for control of circuits in the Isolated state preparatory to sanctioning the issue of **Safety Documents**. A RISSP (see Section 12) is the preferred method for this purpose.

5.5 It should be noted that irrespective of the methods used, there is a mandatory requirement to record the issue of all **Safety Documents** on the Network Management System.

5.6 All other specific responsibilities in this **Approved** procedure **Shall** be followed.

6 Authorisation

6.1 All employees involved in work or operations associated at or near to the **Operational Boundary** with another DNO **Shall** hold the requisite competence and authorisations for any and all procedures they may undertake.

6.2 Competence and authorisation certificates **Shall** be retained personally and be made available upon request.

7 Personal Protective Equipment

7.1 When carrying out any activities in relation to an interface with another DNO, **Approved** PPE **Shall** be worn at all times, appropriate to the location and circumstances of the required works and/or operations.

7.2 As a minimum, PPE **Shall** meet the requirements of WI-NET-OSM-002. However, it must be kept in mind that where **SSEN-D** employees are required to enter beyond the **Operational Boundary**, the interfacing DNO may have their own or additional PPE requirements which **Shall** be adhered to whilst employees are beyond the boundary, as long as there is no conflict with **SSEN-D** minimum PPE requirements.

8 General Requirements

8.1 Work or operations at or near the **Operational Boundary** with another DNO requires clear and unambiguous agreements to ensure that work by each party proceeds safely with the correct **Safety Precautions**.

8.2 All employees involved in work or operations on or near to the **Operational Boundary** of another DNO **Shall** have the correct authorisation and training for the activities required; have received basic first aid training; and have available an **Approved** first aid kit.

8.3 All employees involved with work or operations on or near the **Operational Boundary** with another DNO **Shall** be fully conversant with the relevant clauses of the **OSR** pertaining to such operations and work and all relevant **SSEN-D Approved** procedures and policies.

8.4 Any activities required at or near the interface between **SSEN-D** and another DNO **Shall** only be carried out in accordance with relevant **Approved** procedures and **Shall** be fully risk assessed taking into account all relevant health and safety requirements, site specific issues and any reasonably foreseeable hazards to employees, contractors and, if appropriate, the general public, such that all reasonably practicable control measures are taken to avoid **Danger**.

8.5 The interfacing DNO **Shall** nominate in writing a suitably **Competent Person** (**Authorised** / **Senior Authorised Person** as appropriate) for the activities to be completed.

8.6 Full communication between all parties on site **Shall** be established before work or **Switching** commences, such that each party understands the processes, protocols and scope of work at each stage.

8.7 Before work or **Switching** is required to remove any of the **Safety Precautions** or to restore supplies, a full and comprehensive agreement **Shall** be reached between all parties.

8.8 The Control and operation of **High Voltage Systems** is based on the principle that each part of the **System Shall** only be under the operational control of one Control Person at any one time.

8.9 All sites where an **Operational Boundary** exists **Shall** have an **SRS**. The **SRS Shall** be consulted prior to any **Switching**, to clarify the ownership, operational and control boundaries, plus details of any other hazards applicable to the site.

8.10 A clear understanding of who is responsible for the necessary **Safety Precautions Shall** be agreed between the interfacing DNO or their representative and the **SSEN-D** representative.

8.11 In general, the interfacing DNO's **Authorised Person Shall** be responsible for and operate **Apparatus** on the interfacing DNO's **System** and the **SSEN-D Authorised Person Shall** be responsible for and operate **SSEN-D System Apparatus**.

8.12 It is assumed that any DNO interconnected with the **SSEN-D System** at **High Voltage** will have their own Control authority, and in that case, the RISSP process, in accordance with Grid Code OC8, **Shall** be used (see section 12). The Distribution Code does not stipulate what process and documentation should be used, but as the RISSP process is considered best practice, use of this process will ensure compliance with both codes.

8.13 In the unlikely event that a DNO interconnected at **High Voltage** to the **SSEN-D System** does not have their own control authority, then to ensure that operational requests are properly co-ordinated at the interface with such DNOs, Isolation Certificates (see section 13) **Shall** be used in place of the RISSP process.

8.14 Where **SSEN-D** carries out work on its own **Apparatus**, which might include part of the interfacing DNO **System**, e.g. Switchgear replacement, the interfacing DNO or their representative may wish to transfer operational Control of, and appoint an **SSEN-D** appointed **Senior Authorised Person** to operate the interfacing DNO's **Apparatus** (see section 13).

8.15 The responsibility for the full and correct application of the requirements of this **Approved** procedure sits with the operational person on the site. Where there is more than one operational person on site, then the responsibility for compliance is held both individually and collectively.

8.16 Where site conditions or the circuit configuration precludes full compliance with this **Approved** procedure, dispensation may be given by the Control Centre Network Manager to use an alternative procedure which **Shall** ensure that the safe and robust process detailed within this document is achieved in some other way. However, where an alternative is to be used this **Shall** be agreed with the Operational Safety Manager in advance.

9 Identification of Other DNO Networks on SSEN-D Records and Control Systems

9.1 Any adjacent DNO Network interconnected to the **SSEN-D System** at **High Voltage** is shown as an interconnection only by means of coloured polygon on **SSEN**s GIS schematic diagrams stating the name of the relevant DNO.

9.2 The **Operational Boundary** with another DNO and the **SSEN-D System** is clearly marked on the Network Management System as a DNO **Operational Boundary** point by a dashed line, stating the name of the relevant DNO.

9.3 **SSEN-D** record systems generally do not hold detailed information of any of the assets on another DNO's **Network** beyond the **Operational Boundary**. The relevant DNO is responsible for managing the records of its own assets and for making them available to other interested parties on request through the New Roads and Street Works Act (NRSWA) process.

9.4 Contact details for all DNOs in England, Wales and Scotland are held by the Control Centres, should it be required to contact any of these.

10 On Site Identification of SSEN-D and Other DNO's Apparatus at Shared Premises

10.1 Where a substation contains **Apparatus** owned by **SSEN-D** and **Apparatus** owned by another DNO, it is typically the majority asset owner who has the responsibility under the Electricity Safety, Quality and Continuity Regulations (ESQCR) and whose ESQCR Schedule 1 "Danger of Death" notice and 24-hour emergency contact details are displayed externally.

10.2 A dual locking facility **Shall** be provided to allow unfettered access to a shared substation by both parties.

10.3 External to the substation, **SSEN-D Shall** fit a unique identification and substation number label, in addition to any other required notices, e.g., SF6, etc.

10.4 Ownership of all **Apparatus** within the substation **Shall** be clearly identified by an **Approved** property ownership label identifying the party or parties with ownership and operational responsibility for each asset, which **Shall** be as set out in the **SRS**. Labels **Shall** be placed as a minimum on the front (operation area) of each unit and, where necessary, on the rear of each unit, e.g., extensible **Apparatus**, Metering Units, etc.

10.5 24-hour contact details for all parties sharing the site **Shall** also be displayed inside the substation.

11 Excavations and Jointing Work at DNO Interfaces

11.1 Where excavations are to take place adjacent to or within another DNO's **Network** area, copies of the other DNO's records **Shall** be obtained in the same way as other utility records before any work is undertaken.

11.2 It is likely that another DNO might use cables, ducts and marker tapes which are indistinguishable or difficult to tell apart from those installed by **SSEN-D**. This makes compliance with the identification requirements of the **OSR** and Operational Safety Manual an essential requirement.

11.3 When preparing to carry out jointing work in areas adjacent to another DNO's **Network,** or on **SSEN-D** cables which might cross another DNO's **Network** area, cables **Shall** be positively identified by use of an **Approved** Cable Identifier.

11.4 Prior to cable spiking, an agreement **Shall** be in place to establish communications with the adjacent DNO **Control Engineer**.

12 Record of Inter System Safety Precautions (RISSP)

12.1 The Distribution Code requires each DNO to have a procedure for work or testing at or near an **Operational Boundary** when it is necessary for two or more Control authorities to work together to establish and maintain **Safety from the System** across the **Operational Boundary**.

12.2 When work is to be carried out on one **System** that requires **Safety Precautions**, e.g., isolation and **Earthing**, on an interfacing DNO's **Network**, then where co-ordination is between two or more Control authorities, the RISSP process, as shown in Appendix A **Shall** be used.

12.3 When the use of a RISSP is required to make a **Network** safe to work on, the procedure detailed in Appendix A **Shall** be followed:

13 Use of Isolation Certificates and User Authorisation Documents

In the unlikely event of a DNO not having their own control authority and operations or work is required at or near the **Operational Boundary**, or actually on such a DNO's **Network**, then this **Shall** still be done in a manner that complies with the requirements of Distribution Code DOC8. Isolation Certificates, which comply with DOC8, **Shall** be used in such instances, as detailed in Appendix B.

14 Safety Log

14.1 Regardless of which process is used, each safety co-ordinator **Shall** maintain a Safety Log which **Shall** be a chronological record of all messages relating to changes of control and safety rule boundaries and agreement to switch for RISSP or Isolation Certificate procedures, both sent and received, by the Safety Co-ordinator(s).

14.2 The Safety Log **Shall** be retained for a period of not less than six months, dated from the last entry associated with the use of the RISSP procedure.

15 Network Operating Procedures (NOPs)

15.1 Planned **Switching** on any **Network** which crosses an **Operational Boundary**, including other DNOs, **Shall** be done under NOP1.

NOTE: See PR-NET-OSM-021 System Operations and Transfer of System Control Responsibilities - Operational Safety Manual - Section 2.11 for specific requirements relating to **Network** Operating Procedures.

15.2 Work across the **Operational Boundary** of another DNO's **High Voltage Network** under NOP 2, 3 or 4, is not acceptable, where the DNO has their own Control authority, which will usually be the case.

15.3 Wherever **SSEN-D** are working across the **Operational Boundary** between **Networks** and are using the RISSP procedure, e.g., an interface with another DNO's **High Voltage Network**, then work **Shall** be done under direct Control of the **Control Engineer** (NOP1). The reason for this is that **SSEN-D** cannot transfer the Control authority to a **Field Control Engineer** on a **Network** that requires **Safety Precautions** on an adjacent **Network** controlled by another Control authority.

15.4 In the unlikely event of situations involving **Safety Precautions** on another DNO's **Apparatus**, where that DNO does not have a Control authority, the procedure **Shall** be to establish the necessary isolations, along with the other DNO's operators, locking them off using an ITEX lock guard, or equivalent lock, and obtain an Isolation Certificate or similar.

15.5 Then proceed under NOP 1, 2, 3 or 4 as appropriate. The key point is to establish isolations on the interfacing DNO **Network** before issue of the NOP and remove them after the NOP has been cancelled. If these isolations are on **High Voltage** switchgear, then they **Shall** be stated as **Operational Boundary** points on the RISSP or Isolation Certificate, as appropriate.

15.6 The other DNO may provide **SSEN-D** with the numbers and types of customers affected on their **Network** to help **SSEN-D** deliver the appropriate response based on the numbers and types of those customers.

15.7 In the event that an interruption lasts longer than the estimated restoration time, the other DNO may seek further updates.

15.8 Following full restoration, **SSEN-D Shall** provide the actual restoration times, including any staged restorations to the affected DNO's **Network**.

16 Strathleven Network Operation

16.1 Scottish Power Energy Networks (SPEN) supply seven **SSEN-D** substations via two 33 kV feeds from Strathleven Grid. This includes four single transformer substations and a strategically important water pumping station at Ross Priory.

16.2 Special site-specific operating procedures and ownership arrangements have been agreed between SPEN and **SSEN-D** for this section of interconnecting **Network**, although as far as safety coordination across the **Operational Boundary** is concerned, the RISSP process is used.

17 Failure of an Asset at a DNO Interface

17.1 Each party is responsible for their own assets. If an asset fails, the responsibility rests with the owner of the asset to make arrangements to rectify it.

17.2 In the event that the failure of the asset belonging to one party causes loss of supply or unacceptable reduction of **System** security to the other party, repair work **Shall** be undertaken by the party owning the failed asset as soon as reasonably practicable.

17.3 If customers are off supply as a consequence of an asset failure, **SSEN-D** and the other DNOs **Shall** co-operate to minimise the duration of the outage.

18 Revision History

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

Appendix A RISSP Procedure

This procedure **Shall** be used where the interfacing DNO has their own control authority:

Terms used in this procedure:

- **ISC** (Implementing Safety Co-ordinator)
- **RSC** (Requesting Safety Co-ordinator)

1. **RSC Shall** consider the work to be carried out and safety precautions required.
2. **RSC Shall** then contact the relevant **System Control Engineer** for the adjoining **Networ**k and confirm their authority to act as **ISC**.
3. Both parties **Shall** agree the safety precautions required and the switch out method.
4. Switch out circuit as agreed and log details, confirm to **ISC**.
5. Establish isolations as agreed and log details, confirm to **ISC**.
6. Establish **Earthing** as agreed and log details, confirm to **ISC**.
7. **ISC Shall** then raise RISSP document and fill in details of safety precautions established.
8. **RSC Shall** agree and make an exact copy of these details on their copy, then issue a unique number to the **ISC**.
9. Both parties **Shall** sign and date the relevant issue sections of the document.
10. If both parties require to work on the **Network**, then two sets of RISSPs **Shall** be issued and agreed.
11. Once signed, no alteration can be made to the RISSP document, it can only be cancelled.
12. The **RSC** is now free to issue **Safety Documents** for work but not for testing.
13. If testing is required, the two Safety Co-ordinators **Shall** ensure that all **Safety Documents** relating to the **System** within the points of isolation on the RISSP documents are cancelled. Only one RISSP document can be held relating to the **System** to be tested. Both Safety Co-ordinators **Shall** agree on and log the scope of the testing to be carried out.
14. When **Earths** are removed under the test and are not intended to be re-applied, then the RISSP associated with the test **Shall** be cancelled on completion of the tests. Where the **Earths** are re-applied following the completion of the tests there is no requirement to cancel the relevant RISSP.
15. Restoring the **System** to normal is a reversal of the above process, with the key requirement to agree and log each stage between the **RSC** and **ISC**, i.e., cancel RISSP, agree removal of **Earths**, log, agree removal of isolations, log, agree circuit restoration procedure, log and finally confirm **Network** normal.

Appendix B Procedure for use of Isolation Certificates

This procedure **Shall** be used where the interfacing DNO does not have their own control authority:

1. DOC8 specifies the Safety Management Criteria to be applied by **SSEN-D** and an interfacing DNO for the co-ordination, establishment and maintenance of necessary **Safety Precautions** when work or testing is to be carried out on **Apparatus** of **SSEN-D** or an interfacing DNO, and where for this to be done safely, isolation on and/or **Earthing** of the other's **System** is needed.

2. Included in this is the requirement for **SRS**s and the appointment of **Authorised Persons**, etc.

3. Working across these **Operational Boundary Shall** be in line with the **SSEN-D Approved** procedure PR-PS-007. This includes the use of Isolation Certificates and a User Authorisation Document (UAD). The UAD being a document issued by the interfacing DNO to **SSEN-D** giving authority for **SSEN-D** to control and/or operate on the other DNO's **Network** (FO-PS-181).

4. A key requirement is to notify other DNOs of any action which has an effect, or the possibility of having an effect, on their **System**. An example of this is to contact a DNO's control centre before attempting to close any circuit-breaker feeding interconnections to another DNO following a trip.