

## 1. SCOPE

This procedure details the circumstances when a *Distribution Control Person* (CP-1 or CP-2) may transfer responsibility for a section of the **HV System** to a *Field Control Person* (CP-3 or CP-4).


## 2. ISSUE RECORD

This is a **Reference** document. The current version is held on the Energy Networks Intranet Document Library.

**It is your responsibility to ensure you work to the current version.**

Issue Date	Issue No.	Author	Amendment Details
March 2011	3	Geoff Ryan	Addition of CP-4. Changing <i>PSMC Control Person</i> to <i>Distribution Control Person</i> . Removal of <i>Delegated Control</i>
February 2012	4	Dave Naylor	Correction to Appendix 1 Clarification of the relationship between CP-4 <i>Field Control</i> and the network content / authorisations held.

## 3. ISSUE AUTHORITY

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## 4. REVIEW

This is a **Reference** document which has a 5 year retention period after which a reminder will be issued to review and extend retention or archive. The proposed revision date can be viewed in the Management Safety Procedures Document Index DOC-00-238.

## DISTRIBUTION

This document is part of the Management Safety Procedures Manual but does not have a maintained distribution list.

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## 6. DEFINITIONS

Terms printed in bold type are as defined in the ScottishPower Safety Rules (Electrical and Mechanical) 4<sup>th</sup> Edition.

Terms printed in italics are defined in the Definitions document (OPSAF-11-002) of the Management Safety Procedures.

Acronyms:

SAFL – *Switching and Fault Log*

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## 7. GENERAL

### 7.1 Duties of Persons

7.1.1 **Control Persons** (CP-3 or CP-4) who are to apply *Field Control* procedures shall be authorised in writing by the Authorisation Compliance Manager or his nominee.

- i) *Field Control* category CP-3 is without Limitation or Exclusion i.e. it can be applied to any section of the network at the specified voltage level. In order to hold CP-3 **Persons** shall also hold **Safety Document** authorisation S-1 and **Switching** authorisation OP-1 at the same voltage level.
- ii) *Field Control* category CP-4 will have Limitations and/or Exclusions applied to it. In order to hold CP-4 a **Person** shall also hold **Safety Document** issue authorisation SI-2, SI-3, or SI-4 and **Switching** authorisation OP-1 or OP-2, with Limitations and Exclusions, at the same voltage level. It is the responsibility of the *Distribution Control Person* (CP-1 or CP-2) to confirm the *Field Control Person* (CP-4) is authorised to receive the section of network to be transferred, if necessary by checking the authorisation database.

The content of the section of network a *Field Control Person* may receive *Field Control* of depends on the specific authorisations, Limitations and Exclusions held by the *Field Control Person*. Guidance on the Limitations which can apply in combination is given in Appendix 1 of this document.

- 7.1.2 The *Field Control Person* shall be responsible for issuing the necessary **HV Switching** instructions, including earthing instructions, to an **Authorised Person** assisting or under training as detailed in PSSI 1.
- 7.1.3 *Field Control* shall only be given to **Senior Authorised Persons** who hold *Field Control* Authorisation (CP-3 or CP-4) and the decision to transfer any part of the **High Voltage System** to them will be at the discretion of the **Control Person** already in control of that **System**.
- 7.1.4 The *Field Control Person* shall carry out the duties of a **Control Person** as required by the Safety Rules and shall exercise the appropriate functions of the *Distribution Control Person*, as detailed in OPSAF-11-032 (MSP 5.2).
- 7.1.5 If there is a requirement to transfer control between *Field Control Persons*, this shall be done with the **Consent** of the *Distribution Control Person*. The *Distribution Control Person* shall confirm the new recipient is authorised to receive *Field Control* for that part of the **System** and that the recipient is aware of the current network state and nature of any work taking place before agreeing and recording the transfer.
- 7.1.6 If an outage is not to be continuously worked for a significant period, the *Distribution Control Person* shall decide whether or not *Field Control* will be handed back.
- 7.1.7 In the event that the *Field Control Person* becomes unable to hand back control, e.g. due to sickness/injury, the *Field Control Person's* Manager or his nominee shall return the *Field Control Person's* **Switching** schedule, SAFL and diagram showing current details of the *Field Control HV System* to the *Distribution Control Person* who will cancel *Field Control* and resume control of that part of the **HV System**.

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Alternatively, the *Distribution Control Person* may agree to another *Field Control Person* being nominated to take over *Field Control* when they have fully familiarised themselves with the current state of the transferred **System** and work activity, as in 7.1.5.

The *Field Control Person's* Manager shall, as soon as reasonably practicable, notify the original *Field Control Person* of the changes that have taken place.

- 7.1.8 In the event of loss of the *Field Control Person's Switching* schedule or SAFL detailing **Switching** and issue of **Safety Documents**, a record of these details shall be completed and verified with a best estimate of times.
- 7.1.9 The loss of a **Safety Document, Key Safe, Key Safe Key, Safety Lock Key, Drain Earth, Selected Persons** Report, the Defeating of Interlocks, or non availability of the recipient of the **Safety Document** during *Field Control* shall be dealt with in accordance with OPSAF-11-016 (MSP 2.5).
- 7.1.10 When control of a section of the **HV System** is handed over to the recipient of a **Sanction for Test**, it does not constitute *Field Control*.

## 7.2 Customer or IDNO HV Installation

- 7.2.1 Prior to work commencing, the **Switching** schedule and a diagram of the Customer's Installation shall be submitted to the *Distribution Control Person*. Thereafter, the procedures set out in this document shall apply.

## 7.3 Identification and Spiking

- 7.3.1 Where any work under *Field Control* conditions involves the identification and spiking of cables, the *Distribution Control Person* shall be contacted before and after spiking in accordance with PSSI 5.

## 7.4 Procedure for Recording HV Switching Actions

- 7.4.1 The *Field Control Person* shall record the actual time of completion of each item of **Switching**, including earthing and issue of documents, on his copy of the **Switching** schedule or SAFL as appropriate. The actual times of interruption and restoration of supply shall also be recorded.
- 7.4.2 The *Distribution Control Person* relinquishing control to a *Field Control Person* shall "dress" the **HV System** diagram to identify the part of the **System** that is under *Field Control*. The *Distribution Control Person* relinquishing control shall only be required to log the time and date when instructions were given, and the **Consent** or transfer number issued. They shall also log the time and date when the **System** was handed back from the *Field Control Person*.
- 7.4.3 The completed **Switching** schedule or SAFL used by the *Field Control Person* shall be retained in accordance with the requirement of OPSAF-11-010 (MSP 1.8).

## 7.5 Auditing

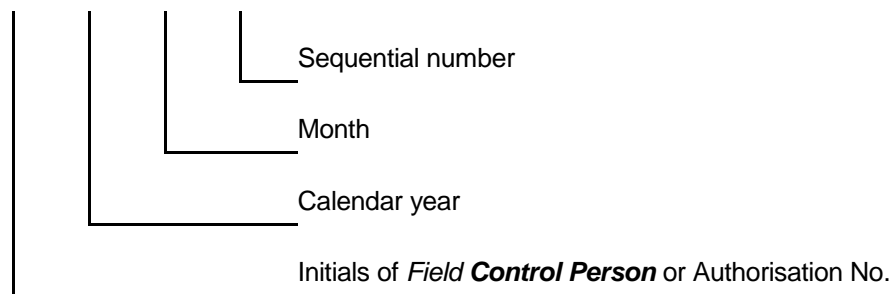
- 7.5.1 Auditing of **Safety Documents** shall be carried out to the standards and at the intervals laid down in OPSAF-11-004 (MSP 1.2).

## 7.6 Safety Document Numbering

- 7.6.1 The *Distribution Control Person* will normally issue a unique **Safety Document** number. Where this is not practicable, the *Field Control Person* shall maintain his own numbering system for all **Safety Documents**.

The system will be:

ABC / 10 / 11 / 001



## 8. CONTROL ARRANGEMENTS

### 8.1 Pre-Planned Conditions

- 8.1.1 The **HV System** is normally controlled from the Operational Control Centre as a centrally controlled **System**.
- 8.1.2 *Field Control* may be released to a *Field Control Person* by the *Distribution Control Person* in control of the **System** on a pre-planned basis where a **Switching** schedule has been submitted at least 48 hours in advance.

### 8.2 Other Conditions

- 8.2.1 A decision to release to *Field Control* shall be agreed between the *Distribution Control Person* and the *Field Control Person*:
- (i) where the **System** is normal but where communications are deemed inadequate between the *Distribution Control Person* and the *Field Control Person*.

or

  - (ii) where *Field Control* is for a part of the **HV System** on which a fault exists and which has been **Isolated**, and where practicable, **Locked**.

or

  - (iii) where *Field Control* is for a part of the **HV System** which contains a faulted section still to be identified and **Isolated**. In these circumstances the decision to release to *Field Control* shall be agreed between the *Distribution Control Person* and the *Field Control Person*, and full consideration of all prevailing circumstances, including communications availability, weather conditions, and general condition of the **System** to be handed over.

Recording of **Switching** shall be in accordance with OPSAF-11-010 (MSP 1.8).

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## 9. ESTABLISHING AND DISCONTINUING FIELD CONTROL ON A PRE-PLANNED BASIS

### 9.1 General

- 9.1.1 *Field Control* may be set up for specific parts of the **System** that are the subject of **Switching** schedules. The request for release of part of the **System** to a *Field Control Person* shall be stated as an item on the **Switching** schedule. The request to return control to the *Distribution Control Person* who will resume control of the **System** shall also be made as an item on the **Switching** schedule.
- 9.1.2 Release of a section of the **System** to *Field Control* shall only be given when the appropriate stage in the **Switching** schedule has been reached.
- 9.1.3 *Field Control* for any part of the **System** shall be transferred only to a single nominated *Field Control Person* (CP-3 or CP-4), who shall then become the **Control Person** for the transferred **System**.
- 9.1.4 When the *Field Control Person* has taken up his duties, the *Distribution Control Person* previously in control of the **System** shall no longer be the **Control Person** responsible for that part of the **System** for which control has been transferred.
- 9.1.5 When *Field Control* is to be relinquished, the *Field Control Person* and *Distribution Control Person* who will resume control of the **System** shall consult with each other and the date and time shall be agreed and logged by both **Control Persons**.

*Field Control* shall normally be handed back upon completion of work and/or testing on the section of the **HV System** for which *Field Control* was transferred, or when the *Distribution Control Person* who will resume control of the **System** decides.

### 9.2 Release of a Section of the HV System to Field Control

The transfer of control of a section of the **System** to a *Field Control Person* may be agreed prior to isolation, in which case all **Switching** shall be within the transferred zone with the **Points of Isolation** established at or within the *Field Control* boundaries. The *Field Control Person* shall be responsible for ensuring that all **Switching** and earthing is carried out in accordance with the **Switching** schedule.

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## 10. ESTABLISHING AND DISCONTINUING FIELD CONTROL IN OTHER CONDITIONS

- 10.1 *Field Control* may be set up for an agreed section of the **System**, for example: a part of the **HV System** which contains a faulted section still to be identified and **Isolated**. The decision to set up *Field Control* shall be taken by the *Distribution Control Person* in agreement with the *Field Control Person* and where justification exists for example, where communications links are poor, where there is excessive control room workload or where the *Distribution Control Person* retaining control provides no additional safety or restoration advantage.
- 10.2 Details of the section of **System** to be transferred to *Field Control* shall be passed verbally by the *Distribution Control Person* to the *Field Control Person* concerned and shall be logged by both **Control Persons**. The details shall include agreement between the *Distribution Control Person* transferring control and the *Field Control Person* as to the work or testing to be carried out.
- 10.3 When *Field Control* becomes effective the date and time shall be logged by the *Distribution Control Person* transferring control and the *Field Control Person*.
- 10.4 *Field Control* for an agreed section of the **System** shall be transferred only to a single *Field Control Person* (CP-3 or CP-4) who shall then become the **Control Person** for the transferred **System**.
- 10.5 When the *Field Control Person* has taken up his duties, the *Distribution Control Person* previously in control of the **System** shall no longer be the **Control Person** responsible for that part of the **System** for which control has been transferred.
- 10.6 When *Field Control* is to be relinquished, the *Field Control Person* and *Distribution Control Person* who will resume control of the **System** shall consult with each other and the date and time of actual transfer shall be agreed and logged by both **Control Persons**.

*Field Control* shall normally be handed back upon completion of work and/or testing on the section of the **HV System** for which *Field Control* was transferred, or when the *Distribution Control Person* who will resume control of the **System** decides.

## 11. OPERATION OF FIELD CONTROL ON A PRE-PLANNED BASIS

### 11.1 Interconnected Network

- 11.1.1 Immediately prior to the release to *Field Control*, the *Distribution Control Person* shall agree, normally in one communication with the *Field Control Person* who is to assume *Field Control*, all **Switching** necessary to transfer the required part of the **System**, and shall record the time of issue of that agreement in the appropriate sections of the **Switching** schedule. The *Distribution Control Person* shall also record to whom the instruction was given. The decision regarding the operational state of the **System** to be transferred and the number of operations to be carried out in one communication shall be made by the *Distribution Control Person*.
- 11.1.2 The *Field Control Person* shall carry out the required items in the order agreed with the *Distribution Control Person* and shall record the actual time of each operation on his **Switching** schedule. The *Field Control Person* shall confirm with the *Distribution Control Person*, when the agreed **Switching** has been completed. The *Distribution Control Person* need only record the time of confirmation rather than details of each item, as the *Field Control Person* will have the actual details on his copy of the **Switching** schedule.

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- 11.1.3 The *Distribution Control Person* shall hand over control of the appropriate section of the **System** to the *Field Control Person* as detailed in Section 9.
- 11.1.4 The *Field Control Person* shall be responsible for carrying out all operations and issue of documents for the remainder of the schedule up to, but not including restoration, in accordance with the Safety Rules, Power Systems Safety Instructions and Management Safety Procedures, including numbering of the documentation which shall be unique to the issuing **Person**. The *Distribution Control Person* may however agree restoration prior to the handing back of the **System**, if all the **Switching** is within the transferred zone and where justification exists for example poor communication or excessive control room workload.
- 11.1.5 All operations, **Key Safe** numbers, and document numbers shall be logged by the *Field Control Person* on his copy of the **Switching** schedule.
- 11.1.6 When all work/testing is complete, the *Field Control Person* shall confirm to the *Distribution Control Person*:
- (a) All **Safety Documents** have been cancelled.
  - (b) All Earths have been removed.
  - (c) The state of existing and any new **Apparatus** on the **System**.
  - (d) The date and time of restoration of control to the *Distribution Control Person*.
- 11.1.7 The *Distribution Control Person* who has resumed control of the **System** shall agree, normally in one communication, to restoration being carried out in accordance with the **Switching** schedule. As soon as restoration is complete, the *Field Control Person* will confirm to the *Distribution Control Person* that the **System** is normal. The *Distribution Control Person* shall record the time of **System** restoration to the normal state. Where supplies have been interrupted the *Distribution Control Person* shall also record for statistical purposes the precise times of interruption and restoration.
- 11.2 Networks with no Alternative HV Supply**
- 11.2.1 At the commencement of the **Switching** schedule, the *Distribution Control Person* releasing part of the **HV System** to *Field Control*, shall agree the limits of control transfer, or the **Point of Isolation** as appropriate, with the *Field Control Person*, who may then proceed without further reference up to the point of restoration. The *Distribution Control Person* may however agree restoration prior to the handing back of the **System**, if all the **Switching** is within the transferred zone and where justification exists for example poor communication or excessive control room workload.
- 11.2.2 When all work/testing is complete the *Field Control Person* shall confirm to the *Distribution Control Person*:
- (a) All **Safety Documents** have been cancelled.
  - (b) All Earths have been removed.
  - (c) The state of existing and any new **Apparatus** on the **System**.
  - (d) The date and time of restoration of control to the *Distribution Control Person*.



11.2.3 The *Distribution Control Person* resuming control of the **System** shall instruct and record time of **System** restoration to the normal state. Where supplies have been interrupted, the *Distribution Control Person* resuming control of the **System** shall also record for statistical purposes the precise times of interruption and restoration.

## 12. OPERATION OF FIELD CONTROL IN OTHER CONDITIONS

12.1 The *Field Control Person* shall, within the **System** under his control, carry out duties of a **Control Person** as set out in Section 7 and 11 of this document.

12.2 Where *Field Control* has been given for a part of the **HV System** on which a fault exists and which has been **Isolated**, then *Field Control* shall, where reasonably practicable, be relinquished before the **System** is re-energised. The *Distribution Control Person* may however agree restoration prior to handing back of the **System** if all the **Switching** is within the transferred zone and where justification exists for example poor communication or excessive control room workload.

13. APPENDIX 1 – APPLICATION GUIDANCE LIMITATIONS APPLICABLE TO CP-4

Application of CP-4 at 6/11kV

Description	Field Control CP-4* with Limitations	TYPICAL MINIMUM AUTHORISATIONS			NOTES
		Safety Document Issue Minimum with Limitations	HV (6/11kV) Operations Minimum of OP-2 with Limitations/ Exclusions**	LV Operations Minimum of OP-2 with Limitations	
Main Line controlled by overhead switchgear	L-10	SI-4 L-10	L-19, L-20, L-21 X-6	L-21	Can control overhead line circuits, including circuits which contain cable sections. Cannot control circuits that have any ground mounted <b>HV</b> switchgear. Can issue <b>Switching</b> instructions within limitations of own OP authorisation only. Can issue (SI), or <b>Consent</b> (CP-4) to the issue of, <b>Safety Documents</b> for work on all pole mounted equipment including jumpers connected to cable terminations but NOT the cable or cable terminations themselves.
Spur Line controlled by overhead switchgear	L-11	SI-4 L-11	L-19, L-20, L-21 X-7	L-21	As above but for Spur Lines only.
Main Line controlled by overhead or ground mounted switchgear	L-10	SI-4 L-10	X-1	L-21	Can control any overhead line circuit, including circuits which contain cable sections and are connected to ground mounted <b>HV</b> switchgear. Can issue <b>Switching</b> instructions within limitations of own OP authorisation only. Can issue (SI), or <b>Consent</b> (CP-4) to the issue of, <b>Safety Documents</b> for work on all pole mounted equipment including jumpers connected to cable terminations but NOT the cable terminations themselves.

Notes:

\* *Field Control* CP-3, which has no limitations or exclusions, requires authorisation levels S-1 and OP-1 @ **HV & LV**.

\*\* OP-2@**HV** can be further restricted by exclusions X-2 (Excluding fault **Switching**) or X-11 (Excluding fault **Switching** other than agreed operations to CP instructions) and in both these cases CP-4 will need to be restricted by adding limitation L-3 (Pre-planned work only).

Description	Field Control CP-4* with Limitations	TYPICAL MINIMUM AUTHORISATIONS			NOTES
		Safety Document Issue Minimum with Limitations	HV (6/11kV) Operations Minimum of OP-2 with Limitations/ Exclusions**	LV Operations Minimum of OP-2 with Limitations	
Substation <b>Plant/Apparatus</b> controlled by ground mounted switchgear on totally underground circuits	L-12	SI-4 L-12	L-17 X-1, X-4	L-22	Can control substation <b>Plant/Apparatus</b> including situations where the controlling switchgear is at remote ground mounted substations provided the circuits are underground (X-4 prevents application of <b>Portable Primary Earths</b> on any overhead section) Can issue <b>Switching</b> instructions within limitations of own OP authorisation only. Can issue (SI), or <b>Consent</b> (CP-4) to the issue of, <b>Safety Documents</b> on substation <b>Plant/Apparatus</b> only. Cannot issue, or <b>Consent</b> to the issue of, <b>Safety Documents</b> on cables or overhead lines.
Substation <b>Plant/Apparatus</b> controlled by ground mounted switchgear on largely underground circuits with sections of overhead line but no pole mounted switchgear	L-12	SI-4 L-12	L-17 X-1	L-22	Can control substation <b>Plant/Apparatus</b> including situations where the controlling switchgear is at remote ground mounted. Circuit will be largely underground but may contain overhead sections provided there is no pole mounted switchgear. Can issue <b>Switching</b> instructions within limitations of own OP authorisation only. Can issue (SI), or <b>Consent</b> (CP-4) to the issue of, <b>Safety Documents</b> on substation <b>Plant/Apparatus</b> only. Cannot issue, or <b>Consent</b> to the issue of, <b>Safety Documents</b> on cables or overhead lines.
Underground cables controlled by ground mounted switchgear	L-13	SI-2 L-13	L-17 X-1, X-4	L-22	Can control underground cable circuits connected to ground mounted switchgear. The cable circuit shall not include pole mounted <b>Apparatus</b> . Can issue <b>Switching</b> instructions within limitations of own OP authorisation only. Can issue (SI), or <b>Consent</b> (CP-4) to the issue of, <b>Safety Documents</b> on cable circuits only.

Notes:

\* *Field Control* CP-3, which has no limitations or exclusions, requires authorisation levels S-1 and OP-1 @ **HV & LV**.

\*\* OP-2@**HV** can be further restricted by exclusions X-2 (Excluding fault **Switching**) or X-11 (Excluding fault **Switching** other than agreed operations to CP instructions) and in both these cases CP-4 will need to be restricted by adding limitation L-3 (Pre-planned work only).

**Application of CP-4 at 33kV (Excludes 22kV circuits)**

Description	Field Control CP-4* with Limitations	33kV MINIMUM AUTHORISATIONS			NOTES
		Safety Document Issue Minimum with Limitations	33kV Operations Minimum Authorisation #	11kV Operations Minimum Authorisation	
33kV overhead line circuit or mixed overhead / underground circuits	L-10	SI-4 L-10	OP-2 X-1	N/A	Can control overhead line circuits, including circuits which contain cable sections. Can issue <b>Switching</b> instructions on switchgear directly controlling the overhead line circuit. Can issue (SI), or <b>Consent</b> (CP-4) to the issue of, <b>Safety Documents</b> for work on all pole mounted equipment including jumpers connected to cable terminations but NOT the cable or cable terminations themselves.
33kV all underground circuit	L-13	SI-2 L-13	OP-2 X-1	N/A	Can control underground cable circuits. The cable circuit shall not include pole mounted <b>Apparatus</b> . Can issue <b>Switching</b> instructions on switchgear directly controlling the underground circuit. Can issue (SI), or <b>Consent</b> (CP-4) to the issue of, <b>Safety Documents</b> on cable circuits only.
Substation <b>Plant/Apparatus</b> only	L-12	SI-4 L-12	OP-2 X-1	OP-2 L-17	Can control substation <b>Plant/Apparatus</b> including situations where the controlling switchgear is at remote substations provided the circuits are underground. Can issue <b>Switching</b> instructions within limitations of own OP authorisation only. Can issue (SI), or <b>Consent</b> (CP-4) to the issue of, <b>Safety Documents</b> on substation <b>Plant/Apparatus</b> only. Cannot issue, or <b>Consent</b> to the issue of, <b>Safety Documents</b> on cables or overhead lines.

Notes:

- \* *Field Control* CP-3, which has no limitations or exclusions, requires authorisation levels S-1 and OP-1 @ **HV & LV**.
- # OP-2@33kV can be further restricted by exclusions X-2 (Excluding fault **Switching**) or X-11 (Excluding fault **Switching** other than agreed operations to CP instructions) and in both these cases CP-4 will need to be restricted by adding limitation L-3 (Pre-planned work only).