



1. SCOPE

This document details the PowerSystems installation requirements for Low Voltage underground cable electricity networks including their new associated HV/LV distribution substations. The document specifically relates to greenfield housing estates constructed under Ofgem's Competition in Connections regime.

The document forms the Appendix to, and must be read in conjunction with, G81 - the Electricity Association publication titled: Framework for design and planning, materials specification and installation and record for greenfield low voltage housing estate installations and associated, new, HV / LV distribution substations.

This document only applies to new developments comprising of single-occupied premises and their associated street lighting installations and is not to be applied retrospectively.

2. ISSUE RECORD

This is a non controlled document

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Issue Date	Issue No	Author	Amendment Details
August 2002	1	Alastair Graham	Initial Issue

3. ISSUE AUTHORITY

Author	Owner	Issue Authority
Alastair Graham Senior Project Engineer	Alastair Ferguson Section Head Engineering Support	Eric Leavy Engineering and Transmission Operations Manager

4. REVIEW

This document shall be subject to review no later than three years from the issue date.

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6. DEFINITIONS AND ABBREVIATIONS

Applicant	The organisation (or their representative) responsible for the overall design and development of the housing site. Typically referred to as the Client or Principal contractor under the CDM regulations.
Approved	Equipment approved in accordance with PowerSystems' Equipment Approvals Procedure, and which is considered suitable for installation on the Company network.
Company	Refers to both SP Distribution Limited and SP Manweb plc including all associated design and planning practices.
Housing Estate	A development consisting of domestic dwellings.
PowerSystems	SP PowerSystems Ltd, operator of network assets on behalf of the Company
SP Distribution Ltd	The Distribution Licence Holder for the Distribution service area formerly known as ScottishPower.
SP Manweb plc	The Distribution Licence Holder for the Distribution service area formerly known as Manweb.

7. RELATED DOCUMENTS

This document is one of a suite of specifications relating to this subject area and should be read in conjunction with:

(a) **Electricity Association Documents:**

Engineering Recommendation G81 - Framework for Design and Planning, Materials Specification and Installation and Record for Greenfield Low Voltage Housing Estate Installations and Associated, New, HV/LV Distribution Substations.

- Part 1: Design and Planning
- Part 2: Materials Specification
- Part 3: Installation and Records

(b) **The Company Internal Documents:**

- Design & Planning Framework for Greenfield Low Voltage Housing Estates Installations & Associated HV/LV Distribution Substations (Ref. **ESDD-02-012**)
- Materials Specification Framework for Greenfield Low Voltage Housing Estate Installations and Associated New HV/LV Distribution Substations (Ref. **EPS-03-027**)

All materials shall comply with both the requirements described within this document and those detailed in (a) and (b) above.

8. GENERAL

The data and guidance contained within this document remains the property of PowerSystems and may not be used for purposes other than that for which it has been supplied and may not be reproduced either wholly or in part, in any way whatsoever, nor may it be used by, or its contents divulged to, any other person whatsoever, without the prior written permission of PowerSystems.

This document applies to new installations and is not to be applied retrospectively.

PowerSystems reserves the right to change the data contained within this document without notification. Although specific network extensions will have designs proposed by third parties, PowerSystems retains the responsibility for the design of the distribution system and since the guidance cannot cover every eventuality reserve the right to apply other criteria where necessary. PowerSystems accepts no responsibility for any inaccuracies in, or omissions from the document.

The Applicant is responsible for ensuring they have all relevant information to undertake the work. Only Applicants possessing the appropriate skills, training, experience and accreditation shall use the data and guidance contained within this document.

The data and guidance contained within this document gives details on materials and does not embrace the physical design and construction of the distribution system or the associated safety, environmental and legal requirements.

9. INSTALLATION SPECIFICATIONS

All equipment offered by the Applicant shall have successfully passed the type-approval tests specified in the relevant standard (EATS, BS, IEC) specified in EPS-03-027. If the Applicant wishes to incorporate any change which may in any way modify or affect the performance of the equipment, such changes must be notified in writing and arrangements made for repeat type-approval testing. The costs of such testing shall be borne by the Applicant. Certified evidence that the equipment offered for adoption is in accordance with the specification shall be submitted.

Only Approved plant, equipment and materials detailed in EPS-03-027 shall be used. Only New plant, equipment and materials shall be installed unless prior agreement is obtained in writing from PowerSystems

9.1 Installation, Commissioning and Testing

All equipment shall be installed and commissioned in accordance with the following PowerSystems documents unless prior written agreement is obtained in writing from the PowerSystems, Engineering and Transmission Operations Manager.

Document Title	Reference
Installation and Connection of Customer's Low Voltage Electrical Supplies up to 100A	EPS-04-001
Excavation, Installation of Electric Cables, Back Filling and Reinstatement of Work	CAB-15-003
Secondary Substation Specification and Installation	SUB-02-06
Earthing and Bonding of Plant and Apparatus at Secondary Substations	EART-02-003

All installations shall be tested in accordance with the following documents.

Document Title		Reference
Each service	Low Voltage Installations - Connection of Customers Electrical Installations	EPS-04-001
Each new section Of cable	Electrical Insulation Testing of HV Equipment up to 33kV	SUB-02-613
Each PME Electrode	Technical Requirements for Applying Protective Multiple Earthing	EART-10-026
Earthing resistance at Secondary Substations	Earthing and Bonding of Plant and Apparatus at Secondary Substations	EART-02-03
LV Fuse Cabinet	Secondary Substation Specification and Installation	SUB-02-06
HV/LV transformer	Electrical Insulation Testing of HV Equipment up to 33kV	SUB-02-613
HV switchgear	Electrical Insulation Testing of HV Equipment up to 33kV	SUB-02-613
HV Cables	Electrical Insulation Testing of HV Equipment up to 33kV	SUB-02-613

9.2 Asset Recording

The recording of information pertaining to installed assets shall be undertaken in accordance with PowerSystems document:

Document Title	Reference
Recording of Electrical Assets by Contractors	BUPR-22-015

Copies of documents can be obtained by request in writing from the Documentation section at:

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