

Category 1 Standard

S1963 Substation Supervisory Control and Data Acquisition Equipment for Use on The System

**(formerly Powerlink Technical
Specification SP80801 Rev 2)**

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MAYOR OF LONDON



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1 Purpose

- 1.1 The purpose of this LU Standard is to apply technical requirements for equipment and systems on the LU power system through the inclusion of a technical specification, previously owned and managed by the Power Service Contractor, UK Power Network Services (UKPNS) Powerlink, as an attachment to this standard.

2 Scope

- 2.1 This Standard applies to equipment and systems on the LU power system.

3 Requirements

- 3.1 The mandatory requirements of this standard are set out in Section 7 as an attachment to this document.
- 3.2 Where an attachment refers to the 'Contractor' it should be taken to mean LU and LU Suppliers following the termination of the Power Service Contract.
- 3.3 Where the attachment refers to the 'System' it should be taken to mean the LU power system including its associated SCADA system and the operational properties.

Note: It is the intention to fully re-work this LU standard into the standards format over a period of time. While the content of the ex-Powerlink specification should not conflict with the remainder of the LU standards suite, should any discrepancies occur, these should be brought to the attention of the LU technical authority.

4 Responsibilities

- 4.1 **The Head of Power Engineering** is responsible for the technical content of this standard. Concessions in relation to this standard shall be directed to the Head of Power Engineering who has overall accountability for compliance with this standard. The Head of Power Engineering may request support from the other technical authorities when reviewing concessions or queries arising from the application of this standard.
- 4.2 **LU and LU Suppliers** shall be responsible for compliance with the requirements of this standard.
- 4.3 **Heads of Profession** are the LU technical authorities for each asset group, and shall be responsible for auditing technical compliance with this standard in accordance with the engineering asset grouping of LU Standard S1041 and with respect to the assurance of assets to which they are accountable for. They shall provide support to the Head of Power Engineering, if requested, with regard to any technical issues arising from concession requests or other queries to this standard.



5 Supporting Information

5.1 Background

- 5.1.1 From the 16th August 1998 through to the 15th August 2013 the LU power system was operated, maintained, renewed and upgraded by UKPNS Powerlink under the Power Services Contract. The contract was a Private Finance Initiative contract where UKPNS Powerlink were responsible for setting the detailed technical requirements for the LU power system.
- 5.1.2 At the start of the Power Service Contract on 16th August 1998 LU transferred its detailed technical standards for the LU power system to UKPNS Powerlink. Powerlink has owned and managed these technical standards as Powerlink technical specifications for the duration of the Power Service Contract.
- 5.1.3 The Power Service Contract ceased on the 16th August 2013 and the UKPNS Powerlink technical specifications for the LU power system were transferred back into LU as Category 1 standards.

Note: At the time this standard was produced, it was deemed necessary to utilise a non-standard for standard format. This however, does not diminish the mandatory requirements contained within the attachments.

5.2 Safety, Environment and Customer Considerations

- 5.2.1 Safety, environment and customer considerations relevant to this engineering standard are covered within the text of the attachment.

6 References

6.1 References and Abbreviations

- 6.1.1 Where references and abbreviations are used in this engineering standard they are given within the text of the attachment.

6.2 Definitions

- 6.2.1 Where definitions are used in this engineering standard they are given within the text of the attachment.
- 6.2.2 The following topic specific definitions are created:
- a) Within London Underground's Glossary of Terms (1-622)
(a Category 1 Standard);

Term	Definition	Source
LU	London Underground is the operating company of the former London Underground Limited.	a
Supplier	Supplier to London Underground, the primary organisation or individual that is selected to deliver a product, service or facility to London Underground and contracting directly to London Underground. This includes Consultants, Contractors, Infracos and PFI Contractors and excludes organisations or individuals selected by and contracting directly to them.	a



6.3 Person Accountable for the Document

Person accountable for the document
Phil Carmichael - Head of Power Engineering

6.4 Document History

Issue no	Date	Changes	Author
A1	Aug 2013	Incorporation of UKPNS Powerlink technical specification SP80801 Rev 2 as Category 1 LU standard following the termination of the Power Services Contract as per DRACCT No. 01934. No technical requirements have been changed.	G Bloch



7 Attachment - Technical Specification SP80801 Rev 2 (Ex Powerlink)

1 Introduction

This specification is for use within the scope of the London Underground Limited (LUL) Power Service Contract (PSC) with UK Power Networks Services Powerlink (Powerlink). It is one of a series of specifications which mandate UK Power Networks Services Powerlink technical and associated requirements for equipment for use on The System.

These specifications are supported by Powerlink Work and Operating Instructions, and Design documentation where appropriate. This Specification shall also be read in conjunction with Powerlink Document SP80001 "Common and General Requirements for Fixed installation Power Supply Equipment".

2 Application

This Specification defines the performance criteria for supervisory control and data acquisition systems located at substations and other sites, for use in conjunction with SCADA central control systems on the London Underground.

3 Scope

This Specification applies to new Supervisory Control and Data Acquisition (SCADA) Systems equipment and extensions to existing equipment, and associated equipment and documentation to be installed on The System, at substations and other similar locations.

The Control Centre equipment used for Normal and Emergency control and monitoring of site equipment is not covered by this Specification.

4 Definitions and Abbreviations

Annunciator Panel	A local display designed to give clear indications of the status or change of state of circuit breakers within the substation or similar building. An alarm accompanies a change of state.
BCD	Binary coded digital signals
CER	Communications Equipment Room.
dB(A)	Decibel, Sound pressure level when signal has been weighted with a frequency response of the A curve.
Element	An element of the control and data acquisition system shall be any single RTU, MTU or FED printed circuit card, inter-connecting cable, power supply unit, datalink, or single Control Room visual display unit, interface device, power supply unit or overview device by which control actions can be initiated or by which data is indicated.
FED	Front End Device.