

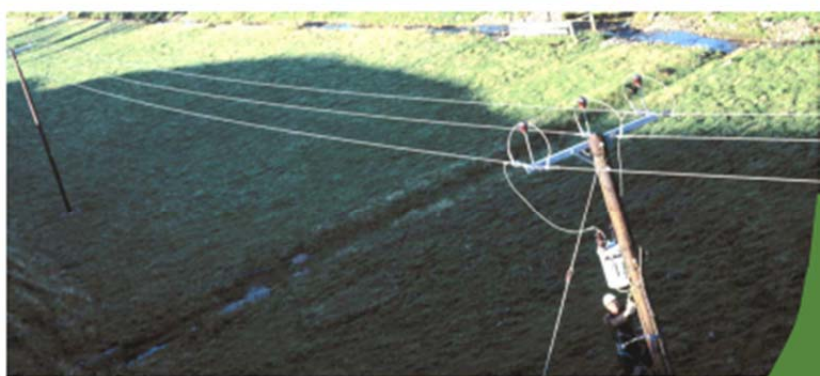


Distribution

Long Term Development Statement

November 2017

SP Distribution for the years 2017/18 to 2021/22



Long Term Development Statement

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Long Term Development Statement

for the years 2017/18 to 2021/22

The information used to compile this Statement is derived from SP Distribution plc's own data. Whilst all reasonable care has been taken in the preparation of this data, SP Distribution plc is not responsible for any loss that may be attributed to the use of this information.

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Long Term Development Statement

Part 1: Introduction

1.1 Purpose of Statement

The Long Term Development Statement (hereby referred to as such or as the Statement) is prepared on an annual basis by Scottish Power Energy Networks on behalf of SP Distribution plc and provides information on the operation and development of the licensee's distribution system.

The purpose of the Long Term Development Statement is to provide information on the distribution system that may be of use to developers wishing to connect to, or make use of, the distribution system. The data is provided to enable developers to identify opportunities and carry out high level assessment of the capability of the network to support their development. Future network development plans are included to advise existing and potential users of significant changes to the system, which may have an impact on their development plans.

1.2 Scottish Power Energy Networks

Scottish Power Energy Networks (SPEN) is part of the ScottishPower Group of companies. We provide power on behalf of supply companies through a network of cables and power lines that we own and maintain. We own and operate the following licence areas:

- **SP Transmission** plc (SPT) is responsible for the Transmission network in Central and Southern Scotland
- **SP Distribution** plc (SPD) is responsible for the Distribution network in Central and Southern Scotland
- **SP Manweb** plc (SPM) is responsible for the Distribution network in Merseyside, Cheshire, North Wales and North Shropshire

1.3 An introduction to the SP Distribution Network

The SP Distribution network supplies nearly 2 million customers in central and southern Scotland. The geographical area extends from Stirling in the North, Glasgow and Ayr in the West, Edinburgh in the East and Dumfries & Galloway in the South, and covers an area of over 21,905 km². Electricity is taken from SP Transmission's 400 kV, 275 kV and 132 kV networks and distributed to our customers through a succession of networks operating at 33 kV, 22 kV, 11 kV, 6.6kV and 400/230 V. There are also connections for Scottish & Southern Electricity Networks in the North and an area around Berwick-upon-Tweed, South of the Scotland/England Border.



SP Distribution Network Overview

Distribution voltages

33kV, 22 kV, 11kV, 6.6kV, 400/230V

Assets (HV and above)

Overhead lines:	16,378 km
Underground cables	15,671 km
Transformers	42,433

Customers

2 million customers	
System Max Demand:	3.56 GW
Connected Generation (>1MW):	2.25 GW
Contracted Generation (>1MW):	2.01 GW



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Both the demand on the distribution system and the operation of generators are dynamic in nature and are dependent on many factors. The weather, dawn/dusk times, social or sports events and relative fuel cost all play a part in shaping the load profile and generation patterns.

The demand on the SP Distribution system varies throughout the day and also over the seasons. Peak demand on the system generally occurs on a weekday in mid-winter and the minimum demand at the weekend during summer. The maximum system demand for the SP Distribution area for 2016/17 was 3563 MW on Monday 21st November 2016 within the half hour ending 17:30 hours. Over the five year period of this Plan, it is estimated that the winter peak demand for the SP Distribution area will increase to around 3902 MW.

1.4 Content of the Long Term Development Statement

The Long Term Development Statement consists of the following content:

Part 1: Introduction

Part 2: Summary Information

- Network long term vision
- Design and operation philosophies of the network
- Network characteristics
- Indication of geographical arrangement of the network
- Statutory obligations and industry standards
- References to engineering recommendations and SPEN documentation
- Contact information

Part 3: Detailed Information

- Schematic diagrams detailing the normal operation of the distribution network
- Table 1: Circuit Data
- Table 2: Transformer Data
- Table 3: System Loads
- Table 4: Fault Levels
- Table 5: Embedded Generation

Part 4: Network development proposals and opportunities

- Network development proposals
- Connection request statistics

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1.5 Annual Publication and Obtaining the LTDS

The network changes over time and the data contained within the Long Term Development Statement include the known and anticipated developments at the data freeze date, usually the end of August each year. The analytical models, which form the basis of the Statement data, are finalised by the end of October. System maximum demand data and Grid Supply Point loads are for the period April to March. The detailed data tables section is fully reassessed on an annual basis for publication in November each year. A brief mid-year update summary is published in May.

Access to the Long Term Development Statement requires registration only. After registration the statement document and associated data tables are available for download free of charge.

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1.6 Further Information for Distributed Generation Connections

Information on how to connect a generation scheme onto our network can be found on the following webpage:

https://www.spenergynetworks.co.uk/pages/distributed_generation.asp



Information on the location of network assets and capacity available can be found using our interactive mapping tool:

www.spenergynetworks.co.uk/pages/connection_opportunities.asp



1.7 Contact Information

Should you wish clarification on any aspect of this document, please contact:



Address: David Neilson,
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System Design and Asset Management,
Network Planning and Regulation,
SP Energy Networks,
ScottishPower House,
320 St. Vincent Street,
Glasgow.
G2 5AD.
Telephone: +44 (0)141 614 1793

Opportunities exist for the connection of new load or generation throughout the SP Distribution system. System conditions and connection parameters are site specific and therefore the economics of a development may vary across the system. Developers are encouraged to discuss their development opportunities and SP Distribution will be pleased to advise on connection issues.

To discuss a specific enquiry about a new connection to the distribution network, or an enhancement to an existing connection, please contact:

Address: SP Energy Networks,
Network Connections,
55 Fullarton Drive,
Cambuslang,
Glasgow. G32 8FA.
Telephone: 0845 270 0783
Email: gettingconnected@scottishpower.com

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