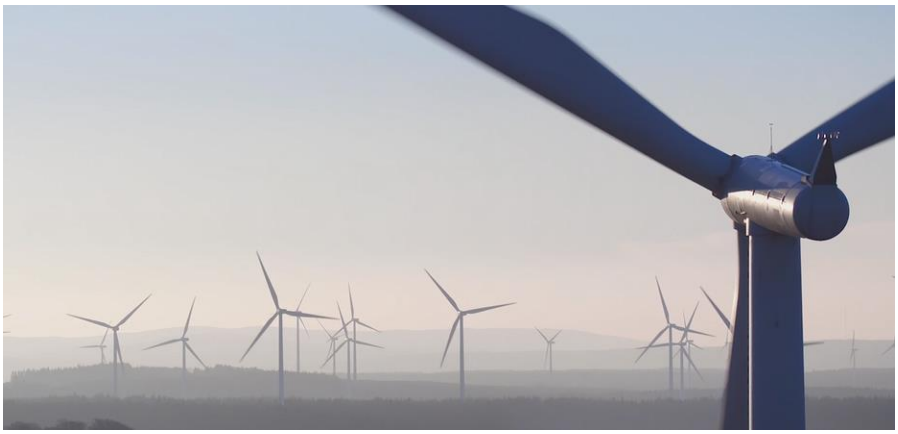
Distribution
Long Term Development Statement

November 2021

SP Manweb

for the years 2021/2022 to 2025/26



Long Term Development Statement

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

The Distribution Long Term Development Statement has been prepared by SP Manweb plc in accordance with Condition 25 of the Electricity Distribution Licence, issued under the Electricity Act 1989. The Statement is prepared in a form specified by the Gas and Electricity Markets Authority.

Registered Office: 3 Prenton Way, Prenton, Merseyside, CH43 3ET

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 SP Energy Networks on behalf of SP Manweb 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 SP Energy Networks

SP 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 is responsible for the Transmission network in central and southern Scotland
- **SP Distribution** plc is responsible for the Distribution network in central and southern Scotland
- **SP Manweb** plc is responsible for the Distribution network in Merseyside, Cheshire, North Wales and North Shropshire

1.3 An introduction to the SP Manweb Distribution Network

The SP Manweb distribution network supplies nearly 1.52 million customers in Merseyside, Cheshire, North Wales and North Shropshire and covers an area of over 12,329 km^2. Electricity is taken from National Grid's 400 kV and 275 kV networks and distributed to our customers though a succession of networks operating at 132 kV, 33 kV, 11 kV, 6.6 kV, 6.3 kV and 400/230V. There are also connections to adjacent distribution networks, including Electricity North West in the north, Western Power Distribution (West Midlands) in the East and Western Power Distribution (South Wales) in the South.

SP Manweb Network Overview

Distribution voltages

132kV, 33kV, 11kV, 6.6kV, 6.3kV and 400/230V

Assets (HV and above)

Overhead lines:	15,445 km
Underground cables:	9,838 km
Transformers:	46,127

Customers

1.55million customers

System Max Demand:	2.67 GW
Connected Generation (>1MW):	2.49 GW
Contracted Generation (>1MW):	1.41 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 Manweb 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 Manweb area for 2020/2021 was 2,674MW on Tuesday 08th December 2020 within the half hour ending 17:30 hours.

We anticipate demand to return to pre-covid levels with relatively static demand in the short-term, as outlined in 'Section 2.3.11 Distribution System Demand', followed by a considerable increase in the medium to longer term driven by the electrification of heat and transport, and increases in industrial and commercial load. Our forecast is based on National Grid Future Energy Scenarios, local intelligence and regional decarbonisation ambitions. These forecasts are disaggregated to a local substation level in tables 'Appendix 3 System Loads'.

Flexibility and smart solutions will be key enablers to reducing the impact on system peak demand. We are progressing extensive work in this area and in 2021 issued tenders for 1.4GW of Flexibility Services at 1554 locations covering all voltages, for the period 2023-28. In addition, we are the only DNO to tender for Reactive Power services and in September 2021 completed an initial trial to dispatch Reactive Power services. We are progressing with deployment of wide scale Active Network Management and are pioneering the development of Active Fault Level Management to facilitate the management of system demand and generation.

We publish our Distribution Future Energy Scenarios for the SP Manweb licence area annually. This provides a range of credible pathways out to 2050, incorporating local intelligence and regional ambitions, enabling us to prepare for the challenges ahead and to support our communities' in their journeys towards Net Zero. We have engaged with a wide range of our stakeholders and received feedback, which is vital to making sure that our forecasts reflect the plans and ambitions of the local communities we serve. Our DFES documents provided in the weblink below describe how electricity generation and demand may evolve in our SP Manweb region over the next 30 years.

Distribution Future Energy Scenarios - SP Energy Networks

In line with the UK Government's plan to reduce carbon dioxide emissions, low-carbon generation technologies are increasingly being connected to the distribution network. This integration of Distributed Generation (DG) increases network fault levels and can consequently trigger significant network interventions.

SPEN's policy to manage the prospective fault level when it approaches or exceeds the rating of equipment is provided in Section 2.4.3 Substation Fault Levels.

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

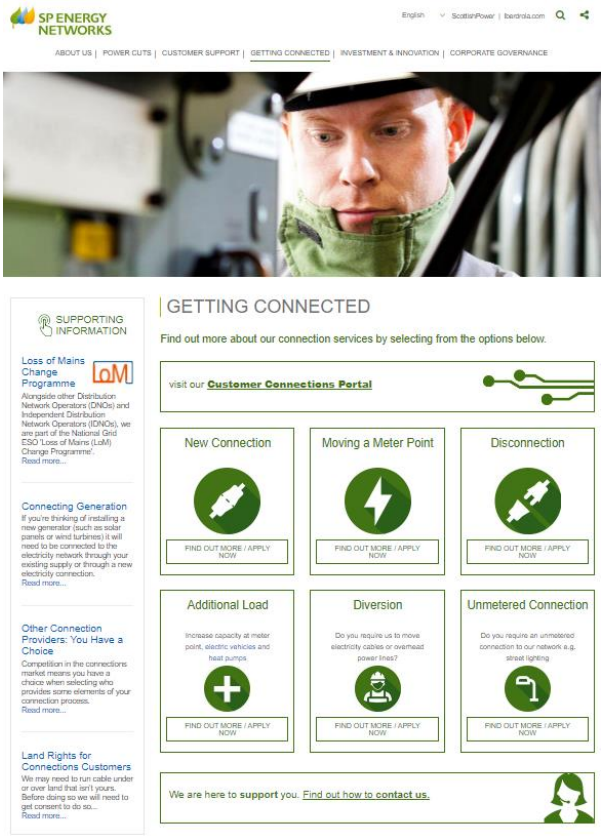
The network changes over time and the data contained within the Long Term Development Statement include the known and anticipated developments at the data freeze date, usually the end of August each year. The analytical models, which form the basis of the Statement data, are finalised by the end of October. System maximum demand data and Bulk Supply Point loads are for the period April to March. The detailed data tables section (Part 3: Detailed Information) 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.

1.6 Further Information for Distributed Generation Connections

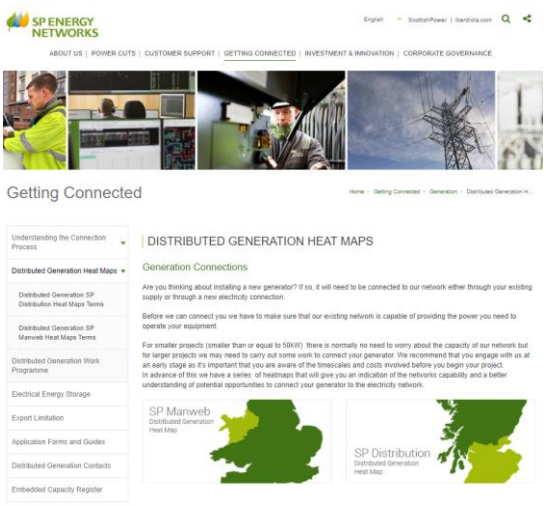
Information on how to connect a generation scheme onto our network can be found on the following webpage:

www.spenergynetworks.co.uk/pages/getting_connected.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



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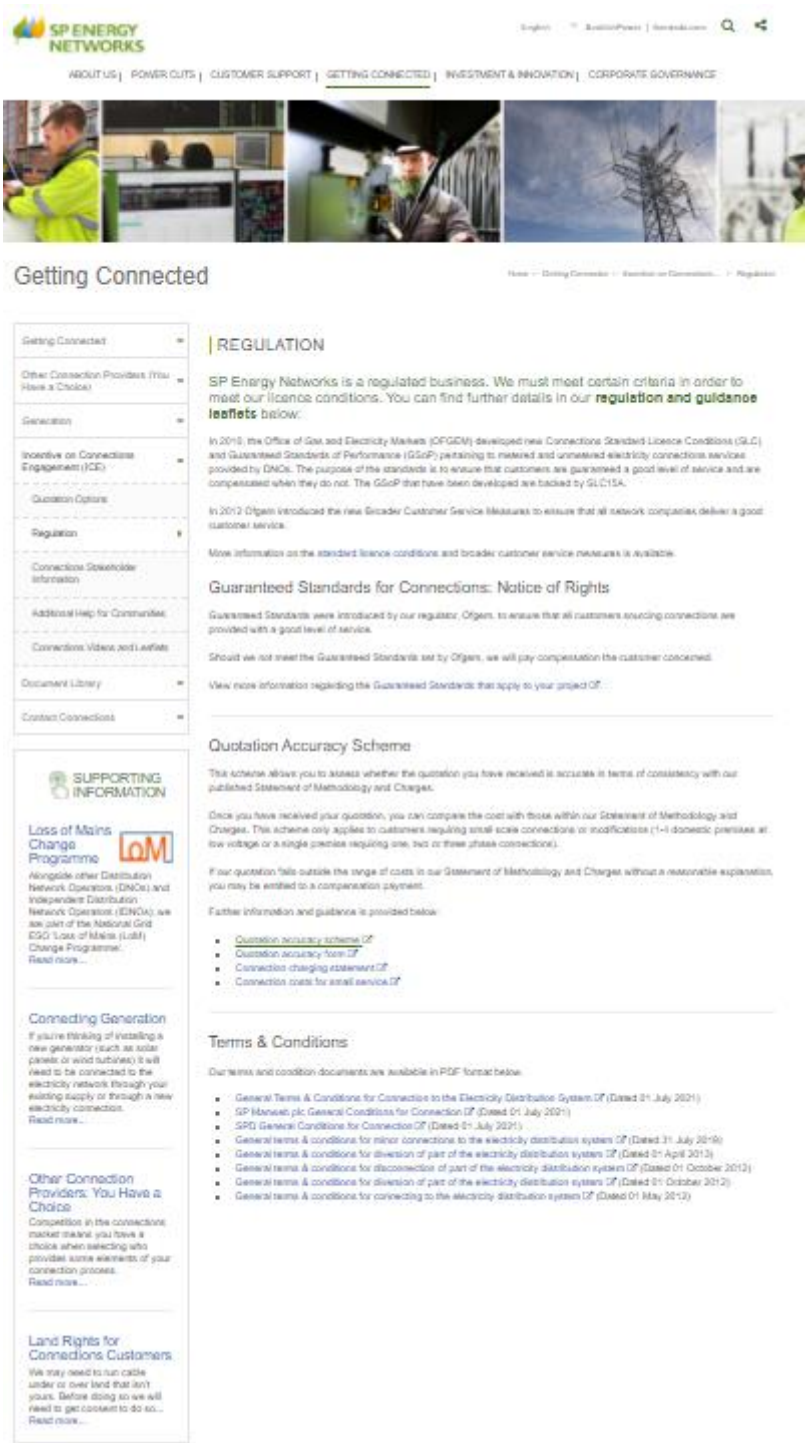
SP Energy Networks is a regulated business. We must meet certain criteria in order to meet our licence conditions. You can find further details on the following webpage:

https://www.spenergynetworks.co.uk/pages/regulation_guidance_leaflets.aspx



1.7 Contact Information

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

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Distribution Network Manager
System Design and Asset Management
Network Planning and Regulation
SP Energy Networks
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Birkenhead
CH43 3ET
Telephone: +44 (0)141 614 5838

Opportunities exist for the connection of new load or generation throughout the SP Manweb 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 Manweb 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
PO Box 290
Lister Drive
Liverpool
L13 7HJ

Telephone: 0845 270 0783
Email: gettingconnected@scottishpower.com