



Long Term Development Statement

PART ONE – West Midlands

November 2022

**Electricity
Distribution**

nationalgrid

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Company Profile

National Grid Electricity Distribution is an electricity Distribution Network Operator (DNO). We are responsible for the network of engineering assets that allows the distribution of electricity to customer's premises from the National Grid.

National Grid Electricity Distribution employs over 6000 staff across four Distribution Areas to distribute electricity from National Grid supply points to the distribution network areas of the East Midlands, the West Midlands, the South West of England and South Wales.

As a distribution business we own the distribution system assets including 220,000km of network and 189,000 transformers plus associated switchgear.

We are responsible for:

- Maintaining the electricity network on a daily basis
- Repairing the electricity network when faults occur
- Reinforcing the electricity network to cope with changes in the pattern of demand
- Extending the network to connect new customers

National Grid Electricity Distribution is not involved in either the buying or selling of electricity to end use customers, as this is the responsibility of electricity supply companies. For a list of supply companies please visit www.ofgem.gov.uk. NGED provides the electrical network to distribute electricity to these customers.

This statement covers the NGED network in the West Midlands

National Grid Electricity Distribution (West Midlands) plc, (hereafter referred to as 'NGED'), is responsible for over 2.4 million customers in a 13,000 sq. km service area in West Midlands.

The region covered by NGED's West Midlands distribution network includes the majority of the West Midlands conurbation, with the exception of Coventry and Warwick. It extends from Congleton in the north to the outskirts of Bristol in the south; and from Knighton and the Welsh Marches in the west to Banbury in the east.

NGED's 132kV networks in the West Midlands are a mix of mesh and radial systems, with some 132kV interconnection between adjoining networks. Grid supply points are not normally operated in parallel except for the Shrewsbury and Ironbridge groups. Otherwise, the use of 132kV interconnection between grid supply points for load transfer is strictly controlled to avoid detrimental effects to the transmission system and to ensure that fault levels are kept within safe limits.

NGED West Midlands also has extensive 66kV networks. These networks cover large rural areas, including the north Cotswolds, Worcestershire, Herefordshire and the Welsh Marches. Networks at this voltage provide economic and reliable rural systems, permitting long feeding distances and being of robust construction. However, some parts of the 66kV network are ageing and may require replacement over the next 10 years. nged would consider reinforcement at the 66kV voltage level or conversion to 132/11kV transformation depending on the solution offering the optimum technical and economic value.

NGED engineering depots are located in the following distribution areas: Birmingham, Gloucester, Hereford & Ludlow, Worcester, Telford, Tipton and Stoke.

Contents

1.	Summary / Introduction	4
2.	Purpose of the Statement	4
3.	Contents of the Statement	5
4.	Contact details for further information	6
4.1.	General	6
4.2.	Additional network data	6
4.3.	New or existing connections	6
4.4.	Use of system agreements	6
4.5.	Equipment specifications	6
4.6.	Other contacts	7
5.	Attachments	8
5.1.	Attachment 1 – Standard Network Information Price List	8
5.1.1.	Geographic maps	8
5.1.2.	Network data	8
5.1.3.	Plant data	8
5.1.4.	Feasibility studies – illustrative costs	9
5.1.5.	Application Assessment and Design – Illustrative Costs	11
5.2.	Attachment 2 – Other Related Information Sources	13
5.2.1.	Useful documents and contacts	13
5.2.2.	Contact details for other interconnecting networks	16
5.3.	Attachment 5 – Geographic Network Diagrams	16

1. Summary / Introduction

The Long Term Development statement is present in two parts:

- Part 1 - The Introductory Section
- Part 2 – Detailed Information
 - Summary Information
 - Detailed Proposals
 - Development Proposals

The Introductory section (Part 1) is published on the Licensee's website free of charge and without the need for registration. It provides an overview of the distribution network of an area licensed under the Electricity Act 1989. The Introductory Section also describes the detailed information contained in Part 2. Part 1 of the Statement contains sufficient information to enable any person to understand the scope of the information contained within the full Statement and to assess whether it would be of use to them.

Access to the full Statement (Parts 1 and 2) is also available free of charge from the Licensee's website following the registration of user details.

[Apply for access to full statement](#)

The Statement and its accompanying data is refreshed annually and published by the end of November each year. In addition to the November publication, the Statement is supplemented with a revision of Part 2 of the Statement, to update the Licensee's firm development proposals and generation data. The update is available at the end of May each year to registered users.

2. Purpose of the Statement

This Statement has been compiled in accordance with Licence Condition 25, to assist existing and future users of National Grid Electricity Distribution's network in identifying and assessing opportunities available to them for making new or additional use of our Distribution System. It also gives contact details for specific enquiries.

The purposes of License Condition 25 are:

- (a) To secure the provision of information by the licensee which will assist any person who contemplates entering into distribution arrangements with the licensee to identify and evaluate the opportunities for doing so; and
- (b) To ensure the general availability of such information in the public domain.

3. Contents of the Statement

The statement contains data on the 132kV, 66kV, and 33kV systems and the transformation level to 11kV. This statement may become outdated, so please contact NGED directly for the latest information. Due to the volume of data and speed with which it can become outdated, data on the 11kV and LV systems has not been included in the statement. Data on the 11kV and LV systems is available on request. A price list for the provision of this data is included in [Attachment 1](#).

The statement also provides high-level information on the design and operation of all voltage levels of the NGED distribution network.

The detailed information section, in part 2 of this statement, contains information/data on the following:

- Geographic plans showing NGED's 132kV, 66kV, and 33kV systems including the National Grid Transmission System within our geographic area of operation.
- Schematic diagrams detailing normal operating configurations of the distribution network
- Circuit data
- Transformer data
- Load information
- Fault level information
- Connected generators with a capacity greater than 1MW

The Network Development Proposals section includes planned major developments to the system at 132kV, 66kV or 33kV that have financial authorisation to proceed and that are expected to change system capability after project completion. Details are provided for the:

- Area of the network affected
- Work that is intended to be carried out
- Impact on the distribution network
- Expected timescale

This section excludes like for like replacements (which will not change system capability) and changes to the system caused by a new user or by an existing user where they have yet to agree terms for connection.

The Network Development Proposals section also includes:

- A high level summary of the interest in defined parts of the distribution network
- Summary details of design policies and practices to assist a user to assess the potential future development of the distribution network.

If you wish to view or download information from Part 2 of this statement then you will need to apply for full access [Apply for access to full statement](#)

The overall historic and future peak demand on the Distribution System is provided in Part 2 of this statement. It shows the winter peak and summer minimum daily demand curves for NGED and the annual load duration curve.

Information on the commercial terms for connecting to and using our network are contained in our Condition 5 Statements. These statements also give information on competition in connections. Technical requirements are detailed in our Distribution Code. Details of how to obtain these documents and useful contacts are shown in [Attachment 2](#).

4. Contact details for further information

4.1. General

For requests relating to the full statement, to provide feedback on any aspect of the statement, or to make a request for further information / clarity relating to the statement, please contact:

Phil Lawson
Data Engineering and Process Manager
National Grid Electricity Distribution
Avonbank
Bristol
BS2 0TB
Email: nged.ltds@nationalgrid.co.uk

4.2. Additional network data

To request network data in addition to that contained in the statement, please email nged.data@nationalgrid.co.uk.

4.3. New or existing connections

Enquiries relating to new or existing connections should be address to:

Records Team
National Grid Electricity Distribution
Lostwithiel Road
Bodmin
PL31 1DE
Tel: 0120 889 2288
Email: nged.newsupplies@nationalgrid.co.uk

Further information relating to New Connections within NGED can be found via the following link:

<http://www.nationalgrid.co.uk/new-connections>

4.4. Use of system agreements

Before an Authorised Electricity Operator can use the network to supply connected customers, they need to enter into a Use of System Agreement. Copies of our Use of System Agreement are available from:

Kester Jones
Connections Strategy Manager
National Grid Electricity Distribution
Herald Way, Pegasus Business Park
Castle Donington, DE74 2TU
Email: nged.ltds@nationalgrid.co.uk

4.5. Equipment specifications

Users who require more information on the specifications used for equipment which forms part of the distribution network should contact:

Carl Ketley-Lowe
Engineering Policy Manager
National Grid Electricity Distribution,
Toll End Road,
Tipton, DY4 0HH

Email: nged.ltds@nationalgrid.co.uk

4.6. Other contacts

New Guaranteed Standards of Performance for connections work began operation on 1st October 2010. These are set out in the Electricity (Standards of Performance) Regulations 2010 and the Electricity (Connection Standards of Performance) Regulations 2010. More information is also available from the [NGED website](#).

The Energy Networks Association also provide several Distributed Generation Connection Guides these are available from the [ENA Website](#)

Other related information sources can be found in [Attachment 2](#).

5. Attachments

5.1. Attachment 1 – Standard Network Information Price List

5.1.1. Geographic maps

Table 1 Price List for Geographic Maps

Description	Price
1:1250 and 1:500 scale mapping in response to “site specific” requests	Free of charge at http://www.linesearchbeforeudig.co.uk
System Overview Map showing NGED 33/66/132kV Network(single map per NGED DNO area in PDF or hard copy)	Free of charge on our website
Information Map with Distribution Areas and local contacts. (single map per NGED DNO area in PDF or hard copy)	Free of charge
Small Scale Mapping – NGED HV & EHV Network referenced to OS Vector Map District (all 4 NGED DNO areas on a single disk in PDF format).	Free of charge to eligible organisations at http://www.nationalgrid.co.uk/Partners or by registering to access our Planning Data Portal http://nationalgrid.co.uk/planningdata

5.1.2. Network data

Table 2 Price List for Network Data

Description	Price
Fault Outage Data - 132kV, 66kV, or 33kV circuit	Free of charge
Circuit Impedance & Rating - 11kV Circuits	Free of charge on our Connected Data Portal
11kV Feeder Load Data - typical winter max and summer min (up to 5 circuits)	Free of charge
Protection Settings (up to 10 circuit breakers)	Free of charge

5.1.3. Plant data

Table 3 Price List for Plant Data

Description	Price
Circuit breaker rating – continuous and fault (up to 10 circuit breakers)	Free of charge
132kV or 33kV Transformer rating, impedance, tap range and tap step	Free of charge on our Connected Data Portal

5.1.4. Feasibility studies – illustrative costs

Prior to making a formal Application for a Connection Offer you may request we undertake a Feasibility Study to establish the viability of making a connection to our Distribution System. We will carry out preliminary network analysis and provide an indicative connection assessment which will include the results of the network analysis and an outline of the engineering scheme to allow the connection. We will require payment in advance of the study being made and will notify you of the relevant study charges prior to commencing work.

Our charges associated with the provision of Feasibility Studies involving design in advance of a formal Connection Application are set out in the table below. Charges for any other activities, such as excavation works will be individually assessed and agreed with you before these are undertaken. The Minimum Charge will always apply. Additional charges will only be applicable where the Applicant amends their connection requirement which necessitates us to carry out further analysis or assessment.

The Connections Charging Statement is published on our website at <https://connections.nationalgrid.co.uk/connections-charging-statements> and gives the basis of charges and the methodology under which customers will be charged for connection to the distribution network.

Table 4 Minimum Connection Feasibility Charges by Category

Category	Minimum Charge £
Demand	
Connection greater than 250kVA and up to 1MVA at LV	553
Connection up to 250kVA at HV	553
Connection greater than 250kVA and up to 1MVA at HV	553
Connection greater than 1MVA and up to 3MVA at HV	707
Connection greater than 3MVA and up to 10MVA at HV	1,730
Connection up to 10MVA at EHV and at 132kV	2,595
Connection greater than 10MVA and up to 50MVA	2,595
Connection greater than 50MVA	3,460
Generation	
Connection of a Small Scale Embedded Generator	173
Connection of other generation up to 20kVA not covered by the above at LV	568
Connection of other generation greater than 20kVA and up to 50kVA at LV	768
Connection of other generation greater than 50kVA at LV	1,075
Connection of generation up to 250kVA at HV	1,229
Connection of generation greater than 250kVA and up to 1MVA at HV	1,536

Category	Minimum Charge £
Connection of generation greater than 1MVA at HV	3,028
Connection of generation up to 10MVA at EHV and at 132kV	4,758
Connection of generation greater than 10MVA and up to 50MVA at EHV and at 132kV	4,758
Connection of generation greater than 50MVA	5,623

Note

“LV”, “HV”, or “EHV” in the table previous denotes the highest voltage of assets installed including any associated Reinforcement or diversionary works.

Small Scale Embedded Generation (SSEG) is defined as a source of electrical energy rated up to and including 16 Amperes per phase, single or multi-phase, LV and designed to operate in parallel with our Distribution System.

These charges are based on NGED’s direct labour and overhead rates at the time of print. Charges are subject to change. The above Feasibility Study charges are exclusive of VAT which should be added at the prevailing rate.

Terms

The charge for carrying out a Feasibility Study will normally be provided within 10 working days. Following payment and provision of appropriate data, studies will typically require 2 – 10 weeks depending on the complexity of the study work required.

High volume requests may take longer to process, and would be priced individually based on the time taken to compile the requested information, but would not exceed the rates above.

In the event that enquiries need information from original equipment suppliers e.g. to seek enhanced ratings, reverse power flows etc. NGED will use its best endeavours to obtain this, but cannot be held responsible for non-provision or delayed provision of information from such third parties. Where such third parties require payment for information, the costs of obtaining it will be advised.

Although all reasonable efforts will be made to ensure the accuracy of data provided, NGED shall have no liability in contract, tort or otherwise to the enquirer or any other person for any loss or damage resulting from any delay in providing the data or any reliance placed upon it whether or not NGED is proved to have acted negligently.

We reserve the right to exclude information that may be considered confidential to an individual customer.

Cheques should be made payable to National Grid Electricity Distribution (West Midlands) plc.

All prices above will be subject to VAT at the prevailing rate

5.1.5. Application Assessment and Design – Illustrative Costs

From 1st May 2018 National Grid Electricity Distribution began charging for expenses occurred during the preparation of connection offers for connections that require work at or above 22kV. These costs are referred to as Assessment and Design fees or A&D Fees.

These fees are now required even if the connection offer is not accepted, and when the scheme is accepted there will be additional costs to secure your connection and to cover immediate costs. If you require any further information please visit <https://connections.nationalgrid.co.uk/information-hub>.

Table 5 Illustrative Costs for Application Assessment and Design

Category	Minimum Charge £	Additional Charge £	Charge at Connection Offer £	Charge at Acceptance £
Demand				
Connection greater than 250kVA and up to 1MVA at LV	846		0	846
Connection up to 250kVA at HV	1,019		0	1,019
Connection greater than 250kVA and up to 1MVA at HV	1,019		0	1,019
Connection greater than 1MVA and up to 3MVA at HV	1,395		0	1,395
Connection greater than 3MVA and up to 10MVA at HV	2,487		0	2,487
Connection up to 10MVA at EHV and at 132kV	3,704		3,704	0
Connection greater than 10MVA and up to 50MVA	4,569		4,569	0
Connection greater than 50MVA	6,218		6,218	0
Generation				
Connection of a single Small Scale Embedded Generator	155	N/A		
Connection of other generation up to 20kVA not covered by the above at LV	516		0	516
Connection of other generation at LV greater than 20kVA and up to 50kVA	1,114		0	1,114
Connection of other generation greater than 20kVA and up to 50kVA at LV	1,394		0	1,394

Category	Minimum Charge £	Additional Charge £	Charge at Connection Offer £	Charge at Acceptance £
Connection of generation up to 250kVA at HV	1,693		0	1,693
Connection of generation greater than 250kVA and up to 1MVA at HV	1,909		0	1,909
Connection of generation greater than 1MVA at HV	2,707		0	2,707
Connection of generation up to 10MVA at EHV and at 132kV	5,164		5,164	0
Connection of generation greater than 10MVA and up to 50MVA at EHV and at 132kV	5,569		5,569	0
Connection of generation greater than 50MVA	7,462		7,462	0

Note

“LV”, “HV”, or “EHV” in the table previous denotes the highest voltage of assets installed including any associated Reinforcement or diversionary works.

“Small Scale Embedded Generation” is defined as a source of electrical energy rated up to and including 16 Amperes per phase, single or multi-phase, LV and designed to operate in parallel with our Distribution System.

Payment

You will be contacted by us to confirm receipt of your application. Once we know works at EHV are required we will discuss this with you and follow it up by providing a written notice, normally via email. The notice will confirm that you will be required to pay the A&D Fee.

If we are unsure if your proposed connection will require works at EHV, we will discuss this with you to alert you to the fact. As soon as we know if EHV works are required we will inform you and give you the opportunity to withdraw your application at no cost. If you continue an invoice for Assessment and Design fees will be sent once the connection offer is complete and it will be payable in full. Additional charges may be applied in relation to the effect of the proposed connection on the transmission system, owned by National Grid.

If the connection falls within an ANM zone you are able to apply for either a Conventional Connection offer or an Alternative Connection offer. If you chose to have both offers you will be charged for the conventional offer as above and a reduced fee for the ANM connection offer which will be based on the work involved in creating the offer.

All prices above will be subject to VAT at the prevailing rate

5.2. Attachment 2 – Other Related Information Sources

5.2.1. Useful documents and contacts

Ofgem

Ofgem regulates the electricity and gas markets in Great Britain. Their website includes consultation and decision documents relating to electricity and gas industries.

www.ofgem.gov.uk

Distribution Code

This sets out all the material technical aspects related to connections to and operation of the distribution system. Copies are available from either Ofgem's or NGED's website www.ofgem.gov.uk or <http://www.nationalgrid.co.uk>. For queries related to the distribution code contact:

Christian Hjelm
Network Design Manager
National Grid Electricity Distribution
Avonbank
Feeder Road
Bristol, BS2 OTB
Email: nged.ltds@nationalgrid.co.uk

National Engineering Recommendations

A number of National Engineering Recommendations are referenced in the Distribution Code. These are available from the Energy Networks Association.

Energy Networks Association
4 More
London Riverside
London
SE1 2AU
0207 706 5100
www.energynetworks.org

Distributed Generation Connection Guides

The Energy Networks Association (ENA) also provides Distributed Generation Connection Guides, which can be obtained from www.energynetworks.org.

Guaranteed Standards

Guaranteed Standards of Performance for connections are set out in the Electricity (Standards of Performance) Regulations 2015 and under the direction of Distribution Licence Conditions 15 & 15A. Further information regarding Engineering Recommendations, Distributed Generation and Guaranteed Standards is available from;

Energy Networks Association
4 More
London Riverside
London
SE1 2AU
0207 706 5100
info@energynetworks.org
www.energynetworks.org

Statement of Methodology and Charges for Connection to National Grid Electricity Distribution (West Midlands) Plc's Electricity Distribution System

The Statement of Methodology and Charges for Connection consists of a Connection Charging Methodology that has been approved by the Gas and Electricity Markets Authority ('the Authority') and a Connection Charging Statement, the form of which has been approved by the Authority. The document also provides other information to explain the options available for obtaining a connection and the processes that must be followed.

The Connection Charging Statement provides the basis of charges for the provision of a connection whilst the Connection Charging Methodology describes the methodology under which Customers will be charged for a connection to National Grid Electricity Distribution.

A copy of the statement is available from the NGED website www.nationalgrid.co.uk

For queries related to this document please contact:

Kester Jones
Connections Strategy Manager
National Grid Electricity Distribution
Herald Way, Pegasus Business Park
Castle Donington, DE74 2TU
Email: nged.ltds@nationalgrid.co.uk

Condition 5 Statements

Three statements are produced and updated annually in accordance with Condition 5 of our Licence that cover the following areas:

- i) Charges for the use of the network including a schedule of adjustment factors to be made in respect of distribution losses. This statement also gives a list of demand-constrained zones where restrictions may be applied to the use of certain timeswitch regimes for off peak loads.
- ii) Charges for the connection of new load or generation to the distribution network
- iii) Charges for distribution Metering and Data Services. These include meter provision and meter operation.

Copies of the statements are available from our website www.nationalgrid.co.uk. For queries related to these documents please contact:

Kester Jones
Connections Strategy Manager
National Grid Electricity Distribution
Herald Way, Pegasus Business Park
Castle Donington, DE74 2TU
Email: nged.ltds@nationalgrid.co.uk

Use of System Agreement

Before an Authorised Electricity Operator can use the network to supply connected customers, they need to enter into a Use of System Agreement. Copies of our Use of System Agreement are available from;

Kester Jones
Connections Strategy Manager
National Grid Electricity Distribution
Herald Way, Pegasus Business Park
Castle Donington, DE74 2TU
Email: nged.ltds@nationalgrid.co.uk

Specifications

Users who require more information on the specifications used for equipment forming part of the distribution network should contact;

Carl Ketley-Lowe
Engineering Policy Manager
National Grid Electricity Distribution,
Toll End Road,
Tipton, DY4 0HH
Email: nged.ltds@nationalgrid.co.uk

5.2.2. Contact details for other interconnecting networks

National Grid Electricity Transmission

NGT House
Warwick Technology Park
Gallows Hill
Warwick
CV34 6DA

National Grid Electricity Distribution (East Midlands) plc

Avonbank
Feeder Road
Bristol
BS2 OTB

National Grid Electricity Distribution (South West) plc

Avonbank
Feeder Road
Bristol
BS2 OTB

Scottish Power Manweb

Manweb House
Chester Business Park
Wrexham Road
Chester
CH4 R9F

5.3. Attachment 5 – Geographic Network Diagrams

Please see separate file.

