



**SP MANWEB**

**SP Manweb plc**

and

**XXX**

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**AGREEMENT FOR CONNECTION TO THE DISTRIBUTION SYSTEM**  
**(Where the customer has generating plant but does NOT use the Distribution System**  
**for selling electricity or exporting energy)**

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**THIS AGREEMENT is made the**

**day of**

**20**

**BETWEEN:**

- (1) **SP Manweb plc** a company registered in England Wales with the registered number 02366937 whose registered office is at 3 Prenton Way, Prenton CH43 3ET ("the Company"), and
- (2) **XXX** a company registered in **XXX** with the registered number **XXX** whose registered office is at **XXX** ("the Customer")

**WHEREAS:-**

- A The Company is authorised by a licence granted under the Act to carry on the business of the distribution of electricity and under the terms of that licence is required (except in certain circumstances specified in that licence) to offer to enter into an agreement for connection to the Distribution System by any person requesting the same, subject to payment by the Customer of an appropriate charge.
- B The Customer has made such request to the Company for Connection.

**NOW THEREFORE** the Parties **HAVE AGREED AND DO HEREBY AGREE** as follows:

1. The Company agrees to the Connection of the Customer's Installation to the Company's Distribution System on the terms and conditions of this Bespoke Connection Agreement.
2. Subject to the express provisions of this Bespoke Connection Agreement, Section 3 of the National Terms of Connection (the "**Applicable NTC Section**") will apply as if it was set out in this Bespoke Connection Agreement, and as if references in the Applicable NTC Section to "this agreement" or to "this Agreement" were to this Bespoke Connection Agreement.
3. The National Terms of Connection are available in writing from the Energy Networks Association, 6th Floor, Dean Bradley House, 52 Horseferry Road, London SW1P 2SF, or from the website at [www.connectionterms.co.uk](http://www.connectionterms.co.uk).
4. The Customer's attention is drawn specifically to the Applicable NTC Section, and the Customer confirms that it has read and fully understands the Applicable NTC Section.
5. Expressions used in this Bespoke Connection Agreement shall have the same meanings as is given to them in the Applicable NTC Section.
6. Details of the Premises, the Connection Points, the technical characteristics of the Connection Points and other matters are set out in the appendices to this Bespoke Connection Agreement.
7. Both parties agree to comply with and be bound by the provisions of the Appendices to this Bespoke Connection Agreement.
8. The Parties may agree variations to this Bespoke Connection Agreement, which variations must be recorded in writing and signed by an authorised representative of each Party. Each Party shall negotiate in good faith the terms of any variation proposed by the other.

If any variation has not been agreed within 1 month of its being proposed, either Party may refer the matter to the Authority for resolution pursuant to section 23 of the Act. The Parties shall give effect to any such determination, and shall enter into any agreement as shall be necessary to give effect to any such determination.

9. Address for notices

(a) for the Company:	(b) for the Customer:
Distribution Policy Manager SP Manweb plc Ochil House 10 Technology Avenue Hamilton International Technology Park High Blantyre G72 OHT	XXX

**IN WITNESS** WHERE of these typewritten presents on this and the preceding pages, together with the scheduled annexed hereto are executed as follows:

SIGNED at.....on the .....day of.....201  
 for and on behalf of **SP Manweb plc**

by.....  
 Distribution Policy Manager/Authorised Signatory

WITNESSED at .....on the.....day of .....201  
 for and on behalf of **SP Manweb plc**

by.....  
 / Authorised Signatory

SIGNED at .....on the.....day of .....201  
 for and on behalf of the **Customer**

by.....  
 Designation/Company

WITNESSED at .....on the.....day of .....201

For and on behalf of the **CUSTOMER**

by.....

**THESE ARE THE APPENDICES REFERRED TO IN THE FOREGOING AGREEMENT BETWEEN THE COMPANY AND THE CUSTOMER**

**APPENDIX 1 - GENERAL PARTICULARS OF THE CONNECTION**

1. CONNECTION CHARGES

These comprise the Connection Charges and (if applicable) the Use of System Charges:

Connection Charge	<p><b>The total charge for the Company's Works as specified in the Offer Letter, dated XX XXX 200X, is £X,XXX,XXX (X million, X hundred and X thousand pounds) plus VAT at the appropriate rate.</b></p> <p>The connection charge must be paid in full before the connection of the Customer's Installation can be made and energised. The initial Connection Charge may be subject to review in the manner set out in the Offer Letter for the connection made to and accepted by the Customer.</p>
Use of System Charges	<p>Such charges will be calculated in accordance with the Company's Statement of Use of System Charges for the time being in force and issued pursuant to Condition 14 of the Electricity Distribution Licence.</p> <p>So far as Use of System Charges are concerned, where another person is paying the charges for the import or export from the site, the Customer shall not be liable for such charges.</p>

2. LOSS ADJUSTMENT FACTOR

The Customer acknowledges and accepts that in signing this Agreement a site-specific loss adjustment factor is being requested from the Company. The Company shall calculate the site-specific loss adjustment factor in accordance with its Methodology Statement for Use of System Charges. It is a condition of the connection of the Customer's Installation that a site-specific loss adjustment factor is in place.

3. SUPPLY CHARACTERISTICS

Except as set out in paragraph 2 below, the characteristics of the connection(s) shall be as follows:

(a) Characteristics of supply:

(i) Number of Phases	[enter number]
(ii) Current	[alternating current]
(iii) Voltage	[Enter Statutory Voltage kV ± 6% / +10%/-6%]
(iv) Frequency	[50 Hertz ± 1%]

The permitted variations will be plus or minus 2%.

(b) Design Short Circuit Fault Capacity: XXX kVA

(c) Connection Point(s): either

(i) where connection is provided from the Company's final cut-out fuse, isolator, switch, metering switch fuse, HV metering unit or metering circuit breaker, unless otherwise stated in this Bespoke Connection Agreement the Connection Points are the outgoing terminals of the Company's final cut-out fuse, isolator, switch, metering switch fuse or metering circuit breaker, or

(ii) where the Company's electric lines connect directly to a Customer's intake isolator, switch, metering switch fuse or metering circuit breaker, unless otherwise stated in this Bespoke Connection Agreement the Connection Points are the incoming terminals of the Customer's intake isolator, switch, metering switch fuse or metering circuit breaker,

and, for the avoidance of doubt, the Connection Points may be remote from the Customer's Installation where third party electric lines and/or electric plant provide the intermediate electrical connection from the Company's Distribution System to the Customer's Installation.

4. DETAILS OF PREMISES

(a)	Address	[SITE ADDRESS HERE]
	Import MPAN	[IMPORT MPAN HERE]
(b)	Commencement Date	[DD/MM/YYYY]
(c)	Maximum Import Capacity	XXX kVA With effect from : DD/MM/YYYY

Requests for reductions in maximum import capacity shall be in accordance with the Company's current Statement of Use of System Charges.

**APPENDIX 2**

**TECHNICAL CONDITIONS**

**Part 1 – Connection Point**

Line Diagram - Attached

SAMPLE

## Part 2 – Generation Appendix

### 1. DEFINITIONS

For the purpose of the Generation Appendix the following definitions shall apply;

<b>"Authorised Person"</b>	is a person recognised by the Company or the Customer as having sufficient technical knowledge and/or experience to enable him to avoid danger, as referred to in the notes of guidance on the Electricity at Work Regulations 1989 relating to Regulation 16. This person may be nominated by the Company or the Customer to carry out specific duties (as detailed in annexe 1).
<b>"Customer"</b>	means the generator.
<b>"DAR"</b>	is an abbreviation for "Delayed Auto Reclose" and is associated with specific circuit breakers on the Distribution System. The purpose of which is to automatically restore supplies in the event of a transient, non-permanent fault, on the Distribution System
<b>"G59/3"</b>	is the current Electricity Association Recommendation relating to the connection of embedded generating plant at the date of the Offer Letter.
<b>"Protection Equipment"</b>	is the automatic equipment installed by the Customer to comply with G59/3, and listed in Annexe 2.
<b>"G5/3"</b>	is the current Engineering Recommendation G5/3, 'Limits for Harmonics in the United Kingdom Electricity Supply System.'
<b>"P28"</b>	is the current Engineering Recommendation P28, 'Planning Limits for Voltage Fluctuation caused by Industrial, Commercial and Domestic Equipment in the United Kingdom.'
<b>"P29"</b>	is the current Engineering Recommendation P29, 'Planning Limits for Voltage unbalance in the united Kingdom.'
<b>"Unfirm"</b>	the proposed method of electrical connection whereby the faulting, or planned maintenance, of any single major item of plant, equipment or line, associated with the connection will cause the connection to be lost (i.e. the Customer will be unable to export or import to or from the Distribution System) until repairs on that item of plant, equipment and lines, are complete.

Annex 1 – Communications / Authorised Persons

Annex 2 – Protection Equipment

Annex 3 – Customer's Generating Plant

Annex 4 – Diagram of Customer's Installation

## **2. COMPANY PROTECTION**

### **2.1 Interface Protection**

The interface protection at the Connection Point will be Neutral Voltage Protection, overcurrent, earth fault and directional overcurrent (as detailed in annexe 2).

## **3. CUSTOMER PROTECTION**

### **3.1 General Requirements**

The Customer's Protection Equipment must comply with the principles of G59/3 and with the requirements embodied in G5/3, P28, and P29, as issued by the Electricity Association.

This protection system must incorporate two recognised loss of mains protection devices to ensure disconnection of the generation if islanding occurs (as detailed in annexe 2).

### **3.2 Interaction with the Distribution System**

The design and settings of all protective devices will be by the Customer but subject to discussion with the Company prior to commissioning of the protection system (at least one month prior to energisation of the connection).

On occasions incidents outside the Company's control may cause variations in the voltage and frequency referred to above. This may affect the normal operation of the customer's installation. If there are any problems the Company should be contacted on the published telephone number.

The Company incorporates DAR facilities in its protection and control systems. The schemes used at present will operate to close circuit breakers following tripping, due to fault occurrence. The Customer's Installation shall be so designed so as not to suffer damage through the operation of the Company's auto-reclosing facilities.

### **3.3 Restoration**

Following correct operation of the Customer's Protection Equipment, the Customer's interface circuit breaker shall not be closed in parallel with the Company's Distribution System until the incoming supply has been proved sound and correct on all phases for a period of 5 minutes.

## **4. OPERATION OF CUSTOMERS INSTALLATION**

### **4.1 General Requirements**

The Customer's operational regime must comply with the principles of G59/3. In particular the Customer must consider section relating to "Parallel operation with the Regional Electricity Company's System" section 6.1 and sub-clauses.



The Customer should determine for himself the phase rotation of the Company's 11,000 Volt system prior to Connection being made. On request the company will provide the phase rotation (clockwise or anti-clockwise) at the Exit Point.

Prior to Energisation of the connection the Company must be satisfied that the correct responsibility schedules, communication channels, incident reporting, Operational and Safety aspects etc. as defined within G59/3 are in place and mutually agreed.

#### 4.2 Quality of Supply (to the Company)

The Customer shall ensure that no Plant, Apparatus or other equipment to be used at the Premises which could cause the supply at the Exit Point to exceed the limits within Engineering Recommendations G5/3, P28 and P29.

#### 4.3 Earthing

The Customer shall install and maintain the earthing system associated with the Premises.

### 5.0 OPERATIONAL RESTRICTIONS

#### 5.1 General Requirements

The Company reserve the right to connect any customer to any part of the existing network where surplus capacity exists and to disrupt the giving or taking of supply for the provision of such a connection.

#### 5.2 Specific Requirements

The Customer is accepting the Company's offer of an unfirm connection to the Company's Distribution System. There are a series of restrictions on the Energisation of the Connection, these include outages or outage to extend or alter: -

- The Distribution System to which the 11,000 Volt circuit breaker is connected
- The 11,000 Volt Circuit Breaker at the Exit Point

No export will be available

5.2.1 The above conditions do not cater for the emergency situations which may occur from time to time. The Company also reserves the right to instruct generators to reduce or curtail generation and reactive power import during time of operational difficulties (or as so directed by the Company's control engineer).

#### 5.3 Generator Stability

The Customer must ensure that the generator plant is stable under all required operating conditions.

## **6. VOLTAGE CONTROL/POWER FACTOR**

### **6.1 General Requirements**

The Customer should operate the Generation Plant (as detailed in annexe 3) primarily controlling the output power factor. This should normally be in the region of 0.98 power factor receiving Vars from the Distribution System. The Customer must control his generation to ensure that the voltage at the Exit Point is between plus or minus 2% at 33kV.

## **7. GENERAL TECHNICAL CONDITIONS**

- 7.1 The means of synchronisation (if required) will be at the Customer's (to be agreed).
- 7.2 The parties shall as soon as practicable agree in writing the records of plant maintenance and failure which are to be made and kept by whom.
- 7.3 The Customer's means of earthing the generator are (to be agreed).
- 7.4 The Customer shall install a switch capable of isolating the Customer's Installation from the Distribution System. The switch shall be lockable in the OFF position and the Customer shall grant the Company's authorised person access at all times, and (except in the case of an emergency) upon reasonable demand, to operate the switch. The provision of the switch shall be free of cost to the Company.
- 7.5 Each party shall ensure that all persons carrying out operation on its behalf on any part of the Distribution System or the Customer's Installation as the case may be, are Authorised Persons (as detailed in annexe 1).
- 7.6 Each Party shall appoint persons with authority to act and communicate on their behalf concerning the operation of the Customer's Installation. The Customer shall advise the Company of the names of such persons with such authority together with the telephone numbers at which they may be contacted at all times. The Company shall provide the Customer with a telephone number at which the Company's Control Engineer responsible of the distribution system to which the Customer is connected, (or other person designated by the Company from time to time), may be contacted at all times (as detailed in annexe 1).
- 7.7 Each party shall inform the other of any condition, using the communication channel detailed in Annexe 1 and in accordance with the Distribution Code, of any occurrence or incidence which would affect the safety of the other party's personnel or the maintenance of its lines or apparatus and shall make and keep records of such information, and when it was communicated and by, and to whom, Either party may change the names, addresses, telephone or facsimile numbers in Annexe 1 by giving at least 7 days written notice to the other.
- 7.8 The Customer shall ensure that all Plant and/or apparatus under its control is capable of withstanding the prospective fault current associated with all sources of electrical energy.
- 7.9 The Customer shall post a copy for inspection near the Exit Point and keep up to date the following information:-

- A system diagram (as detailed in annexe 4)
- A Schedule showing the Control Engineer, Occupier, Safety Rules and ownership applicable to the control and maintenance of electrical plant
- A Schedule of agreed protection settings and the result of tests
- A Schedule of equipment and plant owned by the Customer at the Exit Point
- The method of communication between the Customer and the Company

7.10 The Customer shall notify the Company in advance of any proposal to modify alter or change to the Customer's Installation (including the Customer's Generating Plant) the Protection Equipment or the settings or the manner of operation of any of them. In the event that any such proposals are likely to have an effect upon the Distribution System or the connection or the giving or taking of supplies of electricity to or from other persons the Customer shall not affect them without obtaining the prior written consent of the Company, (such consent not to be unreasonably withheld or delayed) and complying with the provisions of this Agreement.

7.11 The Customer shall permit a suitably skilled and experienced representative of the Company to witness the commissioning tests of the Protection Equipment. In carrying out such tests the Customer shall demonstrate that the Protection Equipment functions correctly over the normal range of generated power and Distribution System conditions.

7.12 The Customer shall perform periodic testing of the Protection Equipment at regular intervals. The Company shall have the right periodically (at reasonable times and on reasonable notice) to, require the Customer to demonstrate that the Protection Equipment continues to function correctly.

**Part 3 Annex 1 – Communication Channels and Authorised Persons**

<b>Communication Channels</b>	
For the Company:	For the Customer:
Power Systems Management Centre (PSMC) SP Manweb plc 3 Prenton Way Prenton CH43 3ET	XXX
<b>Authorised Persons:</b>	
For the Company:	For the Customer:
As above	XXX

**Part 3 Annex 2 - Protection Details**

<b>Details of Protection Fitted:</b>	
- Over Voltage	XXX
- Under Voltage	XXX
- Over Frequency	XXX
- Under Frequency	XXX
<b>Voltage Control System:</b>	XXX
<b>Synchronisation:</b>	XXX
<b>Expected Import / Export:</b>	XXX
<b>Mode of Operation</b>	XXX

SAMPLE

**Part 3 Annex 3 – Customer’s Generating Plant**

<b>Details of Generating Plant to be connected to the distribution system:</b>	
<b>QAS Reference</b>	
Address of Generating Plant	XXX
Grid Reference of Generating Plant	XXX
Type	XXX
Number	XXX
Manufacturer	XXX
Serial Number(s)	XXX
<b>Rating:</b>	
Voltage	XXX
Current	XXX
Frequency	XXX
Capacity	XXX
Output Winding	XXX
Earthing Arrangement	See Below
Fuel	XXX
Maximum Fault Level	XXX

**Earthing:**

- Bonded to earth terminal in normal operation
- In “island operation” earth mat / rod neutral – earth contractor
- Generator winding – unearthed
- Generator winding – star connected

**Part 3 Annex 4 – Diagram of Customer’s Installation**

[Include schematic diagram]

SAMPLE

**Part 4 – Location Plan**

[Include Location Plan]

SAMPLE