



SP Manweb Plc

and

[XXXX]

AGREEMENT FOR CONNECTION TO THE DISTRIBUTION SYSTEM

(Where the customer has no generating plant and uses the Distribution System for importing only)

RELATING TO SPM [substation name/address]

THIS AGREEMENT is made on the _____ day of _____ 20...

BETWEEN:

- (1) SP Manweb Plc a company registered in England and Wales with the registered number 02366937 whose registered office is at 3 Prenton Way, Prenton CH43 3ET ("the Company"), and
- (2) [XXXX] a company registered in [XXXX] with the registered number [XXXX] whose registered office is at [XXXX] ("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, 4 More London Riverside, London, SE1 2AU, or from the website at 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:
DCUSA Contract Manager SP Manweb Plc Prenton Way Birkenhead Merseyside CH43 3ET	Company Secretary, [XXXX]

IN WITNESS WHEREOF these typewritten presents on this and the 2 preceding pages, together with the Conditions and the two Appendices annexed hereto are executed as follows:

SIGNED at on the..... day of20....
for and on behalf of SP Manweb Plc

by.....
Authorised Signatory

WITNESSED at on the.....day of20....
for and on behalf of SP Manweb Plc

by
Authorised Signatory

SIGNED aton the.....day of20....
for and on behalf of the Customer

by
Designation/Company

WITNESSED aton the.....day of20....

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>The total charge for the Company's Works as specified in the Offer Letter, dated [DD/MM/YYYY], is £[XXXX], ([XXX] million, [XXXX] hundred and [XXXX] thousand, [XXXX] hundred and [XXXX] pounds) plus VAT at the appropriate rate.</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 of 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. DETAILS OF PREMISES

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

4. 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 metered points	[X]
(ii) Number of Phases	Three
(iii) Current	Alternating current
(iv) Voltage	[132,000/33,000/11,000] Volts [$\pm 6\%/10\%$]
(v) Frequency	50 Hertz $\pm 1\%$

(b) Connection Point(s):

Where connection is provided from the Company's final cut-out fuse, isolator, switch, metering switch fuse 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.

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.

(i) The Connection to the Company's distribution network is provided as [If applicable]:

[A Firm Connection

A firm connection provides an arrangement which, in the event of a fault on, or the taking out of commission for maintenance or other purpose of, any one circuit forming part of the connection arrangement at the or the Company's Distribution System feeding that arrangement, ensures continued availability of the agreed Maximum Capacity. This definition is to be regarded as unaffected by the fact that switching may be required to relieve a condition of overloading following the loss of one circuit or item of equipment, provided there is no De-Energisation resulting from such switching.]

[An Automatic Firm Connection

An automatic firm connection provides an arrangement which, with the exception of a momentary De-Energisation resulting from the operation of Automatic Switching following a fault on any of the circuits forming part of the connection arrangement at the Substation Accommodation or the Company's Distribution System feeding that arrangement, will maintain the Maximum Capacity.]

[Alternative Switched Connection

An alternative switched connection provides an arrangement which will restore capacity by switching the availability of the Maximum Capacity following a fault on the Connection Equipment or one of the circuits forming part of the connection arrangement at the Substation Accommodation or the Company's Distribution System feeding that arrangement.]

[A Single Circuit Connection]

A single circuit connection provides an arrangement such that in the event of De-Energisation occurring at the Exit Point as a result of a fault on the Connection Equipment or, the circuits forming part of the connection arrangement at the Substation Accommodation or the Company's Distribution System feeding that arrangement, Re-Energisation will be delayed until the completion of all necessary repairs.]

- (ii) The Connection to the customer is provided as [If applicable]:

[A Firm Connection]

A firm connection provides an arrangement which, in the event of a fault on, or the taking out of commission for maintenance or other purpose of, any one circuit forming part of the connection arrangement at the Exit Point or the Company's Distribution System feeding that arrangement, ensures continued availability for the Customer to import energy into the distribution network.]

[An Unfirm Connection]

An un-firm circuit connection provides an arrangement such that in the event of De-Energisation occurring at the Exit Point as a result of a fault on the Connection Equipment or, the circuits forming part of the connection arrangement at the Exit Point or, the Company's Distribution System feeding that arrangement or, import constraints are imposed from monitoring and constrains schemes, Re-Energisation or an increase in the import of energy will be delayed until the completion of all necessary repairs, or constraints are removed.]

5. POWER FACTOR

The parties agree:

The Customer shall at all times maintain the Power Factor of any supply of electricity taken by the Customer at or as near to unity as practicable and in any case between unity and 0.95 Power Factor lagging.

6. SPECIAL AUTOMATIC FACILITIES

An emergency trip facility connected to the Company's metering [132,000/33,000/11,000] volt switchgear for use by the Customer. The emergency trip facility will be installed at an agreed location.

7. DESIGN FAULT LEVEL

At the Connection Point:

OPENING DUTY: (IF APPLICABLE [11/33/132] KV)

13.12KA/17.5KA/20KA THREE PHASE SYMMETRICAL RMS @
90MS/70MS

*13.12KA/5KA/25KA SINGLE PHASE SYMMETRICAL RMS @
90MS/70MS

* EQUIVALENT THREE PHASE

CLOSING DUTY

THREE PHASE – [2.5/2.55/2.9] TIMES OPENING DUTY

SINGLE PHASE – [2.5/2.55/2.9] TIMES OPENING DUTY

8. COMMUNICATIONS EQUIPMENT AND DATA REQUIREMENTS [IF APPLICABLE]

Real Time Analogues

- MW (0.1MW precision)
- MVar (0.1MVar precision)
- Amps (1Amp precision)
- Volts (0.1kV)
- Frequency (0.01Hz precision)

Indications

- Double point circuit breaker indication contacts (i.e., one open, one closed) shall be provided for the Customer's main 132/33/11kV circuit breakers on the Customer's installation

Telephone circuits

- Public Switched Telephone Network (PSTN) or SP approved equivalent
- Protection intertripping
- SCADA (System control and Data Acquisition equipment)
- Power Quality Monitor (PQR)

9. SAFETY

The Customer, in accordance with Engineering Recommendation S34, must establish whether the substation is a "hot" site, having a rise of earth potential exceeding the present limit of 650V for any earth fault on the site. If the substation is declared "hot" then the Customer must install appropriate barrier

and isolation facilities in all wiring and communication circuits which may be referred to a remote earth potential. It will also be necessary to ensure that appropriate safety procedures are used when working on these facilities.

As indicated in the Electricity Safety, Quality and Continuity Regulations 2002 (as amended from time to time) Regulation 26 (as amended) has to be complied with and the detail is outlined in Schedule 3.

The Company will maintain records of plant maintenance and failure of the Company's equipment and the Customer will maintain records of plant maintenance and failure of the Customer's Equipment. The normal method of communication between both parties will be through the Communication Channel detailed in Appendix 3.

Both parties shall ensure that all persons carrying out operations on their installation or equipment are authorised and competent. Details of both parties Authorised Persons can be obtained through the Communication Channels detailed in Appendix 3. The Customer's Shift Manager will keep a record of any condition, occurrence or incident which could affect the safety of the Company's personnel and inform the Company. The Company's Control Engineer will keep a record of any condition occurrence or incident which could affect the safety of the Customer's personnel and inform the Customer.

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.

The Customer shall post a copy for inspection near the Exit Point and keep up to date the following information as required by Schedule 3 Part II section 3(h) of the Regulations and the Distribution Code DPC5.4.3:

- 1) A System Diagram.
- 2) A Schedule showing the Control Engineer, Occupier, Safety Rules, and ownership applicable to the control and maintenance of electrical plant.
- 3) A Schedule of agreed protection settings and the result of tests.
- 4) A Responsibility schedule for equipment at the Exit Point.

Electrical Interconnection

The Customer must ensure that the Customer's Electrical Installation does not extend beyond the Premises boundary defined in Appendix 1, Annexe 2 and that there is no electrical interconnection with any adjacent premises or installation.

10. OPERATIONAL RESTRICTIONS

The Company reserves the right to instruct the Customer to reduce or curtail power import during time of operational difficulties, Emergency situations or during Outages (or as so directed by our Control Engineer).

11. CONTRACTED CUSTOMER OPERATIONAL REGIME

The Customer acknowledges and accepts that in signing this Agreement, the operational regime in place at the time of energisation of the Connection Point is in accordance with that stated in the original application for connection.

The Customer also acknowledges that if they require or are considering any change to their operational regime, if it has or may have an impact on the Company's distribution network, it shall not be modified,

altered, or changed in any way without prior consultation with the Company and the formal submission of a Modification Application to the Company, providing full details of any proposed changes.

SAMPLE

ANNEXE 1 - CIRCUIT DIAGRAM

SAMPLE

ANNEXE 2 – LOCATION PLAN

SAMPLE

ANNEXE 3 - PROTECTION DETAILS AND SETTINGS

SAMPLE

ANNEXE 4 – SCHEMATIC DIAGRAM OF CUSTOMER'S INSTALLATION

SAMPLE

APPENDIX 2 – TECHNICAL CONDITIONS

The Customer connecting to the Distribution System shall comply with the requirements of the Distribution Code. This details the requirements of the Customer's plant, and the exchange of data between the Customer and the Company.

All Customers (unless connecting to the Distribution System only for the purpose of routine testing) shall comply with the additional requirements detailed in Part 1 of this Appendix.

PART 1 – SITE SPECIFIC TECHNICAL CONDITIONS

1.1. Constraints

The Customer has requested and accepted a [single/dual] connection for the Customer's Installation to the Distribution System such that the Customer's Connection Point is fed via a [single/dual] [132,000/33,000/11,000] volt circuit breaker.

In the event that the Company has (under the provisions of any other agreement or legislation or arrangement of any kind) to make a payment in respect of any restriction, outage or constraint to the Customer (or to any other person and the Customer, directly or indirectly, receives any such payment or part of it) then the Customer shall refund the same to the Company.

The Customer acknowledges that in the event of any of the connection equipment at the Substation (e.g., the [132,000/33,000/11,000] volt underground cable, [132,000/33,000/11,000] volt metered circuit breaker or associated protection or auxiliary equipment) being out of service at times of outages, maintenance, fault, extension, repair or during Planned Outages or other times, the Customer may not be able to import energy from the Distribution System during this period.

The Customer also acknowledges that in the event of any of the Company [132,000/33,000/11,000] volt feeder circuit breakers or associated protection or auxiliary equipment at the Substation, or Primary/Grid transformers being out of service at times of outages, maintenance, fault, extension, repair or during Planned Outages or other times, the Customer may be required to constrain the import of energy (which may be down to zero) from the Distribution System during this period.

1.2. [Network Unavailability Rebates [If applicable]]

The Customer has requested and accepted an independent, unfirm connection to the Distribution System and as such the network unavailability rebate will be zero. Details of the Company's policy regarding rebates can be found in the Company's Methodology Statement detailing the Basis of Use of System Charges of the Electricity Distribution Licence, as published from time to time.]

1.3. Compliance with Standards

It is a condition of Connection that the Customer's Installation will not have a detrimental effect on the stability of the Distribution System and will not cause voltage steps, harmonics or other disturbances outside the values laid down in the Grid Code and the Engineering Recommendations: G5 (latest version) – 'Harmonic voltage distortion and the connection of harmonic sources and/or resonant plant to transmission systems and distribution networks in the United Kingdom'; P28 (latest version) – 'Voltage fluctuations and the connection of disturbing equipment to transmission systems and distribution networks in the United Kingdom'.

The Customer shall ensure that the connection of the Customer Installation and any associated plant must not cause any harmonic current injection into telephony and communication networks.

The Customer shall ensure that the Customer Installation and any associated plant should be capable of performing satisfactorily under the network unbalance conditions defined in Engineering Recommendation P29. Voltage unbalance should not normally exceed 2% during any one-minute period but 1% may exist continuously.

1.4. Behaviour during Network Faults

It is a condition of Connection that the Customer's Installation shall not adversely affect the security and quality of supply to existing customers during transient faults on the Transmission and Distribution System. To ensure these requirements are met, it is normal industry practice to carry out system studies to determine the effect of connecting the Customer's Installation to the Distribution System. If these studies have not been carried out due to the Customer's failure to provide a comprehensive static and dynamic model of the Customer's Installation, then should additional works be required to enable the Customer's Installation to conform to the standards specified above, it will be the Customer's responsibility to fund the whole cost of any additional cost and expenses that the Company may incur as a result.

1.5. Protection

1.5.1. Company Protection

The function of this equipment is to enable compliance with our responsibilities under the Electricity Safety, Quality and Continuity Regulations 2002 (as amended from time to time) and to provide back up to the Customer's protection.

The Company will allow the Customer to use a company current transformers and a trip signal for the customer to use to protect the short length of the customer's [11kV/33kV/132] kV busbar between the interface circuit breakers and the Customer's apparatus.

Interface protection is installed on the incoming [11KV/33kV/132] kV circuit breaker(s). The Company's protection equipment and settings are detailed in Appendix 1, Annexe 3.

1.5.2. Customer's Protection

It is the Customer's responsibility to protect the whole of the Customer's Installation including any plant/apparatus connected between the metered interface circuit breakers at the Substation Accommodation and the Customer's installation.

All the Customer's equipment beyond the Connection Point including cables, overhead lines or busbars and all plant, including circuit breakers, reactors, capacitors or windings of transformers owned and operated by the Customer are to be deemed as part of the Customer's Installation and therefore the protection of this equipment is to be covered by the above protection requirements. 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 not less than 5 minutes, or so determined by consultation with the PSMC.

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.

In accordance with the Company's recommendations which the Company considers to be Good Industry Practice, the Customer is responsible for providing at its own cost and expense: -

1. protection for the Customer's Installation so as to prevent Danger (as defined in the Regulations) and not to cause damage to or interference with the Distribution System or the supply of electricity to others and
2. install maintain and operate adequate quantity of circuit breakers forming part of the Customer's Installation which are opened by the Customer's protection Equipment, and which are closed by the Customer's control Equipment.

1.5.3. [Protection for 132kV Circuits [If applicable]

The performance of the Customer's protection for the Customer's Installation should not compromise the security and quality of supply of customers connected to the Company's Distribution System. To this end we expect the Customer to install a unit protection scheme on their incoming feeder(s) from the Company's metering circuit breaker(s) and for it to perform within the same operating criteria that the Company applies for its distribution system protection, that is the detection and clearance of 132kV phase & earth faults within 70 milliseconds. This is to achieve a total fault clearance time from fault inception to arc extinction of 120 milliseconds.]

1.5.4. [Protection for 33kV Circuits [If applicable]

The performance of the Customer's protection for the Customer's Installation should not compromise the security and quality of supply of customers connected to the Company's Distribution System. To this end we expect the Customer to install a unit protection scheme on their incoming feeder(s) from the Company's metering circuit breaker(s) and for it to perform within the same operating criteria that the Company applies for its distribution system protection, that is the detection and clearance of 33kV phase & earth faults within 100 milliseconds. This is to achieve a total fault clearance time from fault inception to arc extinction of 200 milliseconds. On feeder circuits the target for the maximum clearance time of back-up protection that initiates fault clearance by a switching device shall be 750 milliseconds.]

1.5.5. [Protection for 11kV circuits [If applicable]

The performance of the Customer's protection for the Customer's Installation should not compromise the security and quality of supply of customers connected to the Company's Distribution System. To this end we expect the Customer to install a unit protection scheme on their incoming feeder(s) from the Company's metering circuit breaker(s) and for it to perform within the same operating criteria that the Company applies for its distribution system protection, that is the detection and clearance of 11kV phase & earth faults within 500 milliseconds. This is to achieve a total fault clearance time from fault inception to arc extinction of less than 600 milliseconds. On feeder circuits the target for the maximum clearance time of back-up protection that initiates fault clearance by a switching device shall be less than 1,500 milliseconds.]

APPENDIX 3 – COMMUNICATION CHANNELS AND AUTHORISED PERSONS

Communication Channels	
For the Company:	For the Customer:
DCUSA Contract Manager SP Manweb Plc Preston Way Birkenhead Merseyside CH43 3ET	[XXXX] Tel: [XXXX]
Authorised Persons:	
For the Company:	For the Customer:
As above	As above