

Design Submission Pack

For Independent Connection Providers

Electricity North West Ltd

29 September 2017



Section 1 - All sites

PLEASE NOTE: This form MUST be completed in full (tick or add detail in each box as applicable). It will be used by Electricity North West Limited to check that all the necessary information has been included with your design submission. Any incomplete design submissions may lead to it being rejected with a request for the missing information.

ENWL Project reference number and version	
1.1 Name and address of development	
1.2 Name of the Independent Connection Provider (ICP) and /or Independent Distribution Network Operator (IDNO)	
1.3 Construction, Design and Management (CDM) - Information relating to the specific risks associated with the site	
1.4 A programme of the works including indicative customer power on date	<input type="radio"/>
1.5 Details of the phasing of the work	<input type="radio"/>
1.6 Current drawings including an adoption plan with all submissions	<input type="radio"/>
1.7 Confirmed maximum import capacity (MIC) kVA	<input type="radio"/>
Confirmed maximum export capacity (MEC) kVA	<input type="radio"/>
Confirmation the proposed design is in line with the MIC / MEC as per the accepted point of connection quotation	<input type="radio"/>
1.8 Drawing numbers for all (HV, LV & Service) cable routes	<input type="radio"/>
1.9 Road crossing details inc proposed cross section drawings	<input type="radio"/>
1.10 Duct details for all services & mains	<input type="radio"/>
1.11 Legal consent information form LINK completed and submitted to ENWL Legal team at the appropriate time. <i>For guidance please refer to</i> http://www.enwl.co.uk/lrc	<input type="radio"/>
Heads of terms signed from the developer LINK including associated solicitor details	<input type="radio"/>
Heads of terms signed from third parties LINK inc associated solicitor details	<input type="radio"/>
Land registry compliant legal drawings for both on site and off site work. See example of good drawing below	<input type="radio"/>
Highways searches plan indicating the extent of adopted highways	<input type="radio"/>
Land registry title registry and plan	<input type="radio"/>
Any other consents / permissions i.e. environment agency, land drainage consent, county council ordinary water course consent	<input type="radio"/>
Details of the assets to be installed i.e. approved design	<input type="radio"/>
Consent form	<input type="radio"/>

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1.12 Confirmation the design submitted is connecting onto the same cable as indicated on the PoC offer at the position indicated.	<input type="radio"/>
1.13 Confirmation that the proposed design conforms with all relevant ENWL policies. <i>For policies see</i> http://www.enwl.co.uk/g81policies	<input type="radio"/>
1.14 Engineering report	
Confirmation of who will be completing the jointing i.e. ICP or ENWL	
If the ICP wishes for ENWL to undertake the contestable jointing on their behalf, has the jointing costs been paid for?	
If jointing to be completed by ENWL, please ensure the joint hole complies with the following guidance; http://www.enwl.co.uk/contestable-activities-library	<input type="radio"/>
Bill of quantities for the asset to be adopted by ENWL. This should be submitted using the following template; https://www.enwl.co.uk/docs/default-source/connections/asset-value-template.xlsx?Status=Temp&sfvrsn=2	<input type="radio"/>
Meter Point Administration Number (MPAN) form completed. LINK to MPAN web page; http://www.enwl.co.uk/mpan	<input type="radio"/>
End user declaration form (example below)	<input type="radio"/>

Section 2 - Substation sites

PLEASE NOTE: This form MUST be completed in full (tick or add detail in each box as applicable). It will be used by Electricity North West Limited to check that all the necessary information has been included with your design submission. Any incomplete design submissions may lead to it being rejected with a request for the missing information.

2.1 Type and specification of equipment being installed (HV & LV) including cables and plant

2.2 Civil drawings for the building and plinths



2.3 Specification for GRP enclosures & manufacturer's details

2.4 Proposal for substation earth

ICP/DNO Earthing Design Report

Substation name

Project reference

Earth design reference and version

Designer

Date

Email

Details to be provided separately for both normal and abnormal running arrangements

SOURCE

Primary substation name

Primary number

Primary feeder name

Earth fault level

Neutral earthing (YES OR NO)

Earth resistance

Ohms

Primary substation EPR

Volts

Site classification (HOT or COLD)

SECONDARY SUBSTATION

Substation plan showing earthing system design: grids, rods, length of horizontal electrodes installed under new network cable and contributions from extended earths. Connections to plant

Earthing conductor/rod type and size, depth

Surface covering and depth around the substation

Details of any nearby metal fence

Earthing drawing number and version

Earth fault duration used

kA

CIRCUIT DETAILS USED (Site to POC to primary)

Length, type, standard

SOIL RESISTIVITY

Details of measured ground resistivity, measured at a minimum of two locations

Ohm/m

CALCULATE EARTHING SYSTEM RESISTANCE

Calculated substation resistance	Ohm
Calculated resistance of horizontal electrodes installed under incoming/outgoing cables (subject to $EPR < 430V$)	Ohm
Calculated resistance (extended earths) ENW network PILC cables acting as horizontal electrodes (see ENA ER S34 restrictions)	Ohm
Calculated resistance of customers earth mat (HV supplies only)	Ohm
Overall calculated resistance of substation	Ohm

CALCULATED EARTH COMPONENT OF CURRENT

Where applicable, ENA S34 earth return component of current used	kA
Where there is no metallic path back to feeding primary, the reduced fault level used for EPR calculations	kA

CALCULATED

EPR	Volts
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CONFIRM PERMISSIBLE TOUCH AND STEP VOLTAGE LIMITS USED

Location 1

Location 2

DETAILS OF CALCULATED TOUCH AND STEP VOLTAGES

Confirmation that permissible voltage is $<$ voltage limits (details of assessment)

ENW LVS AND LV SUBSTATIONS

EPR or transferred voltage $>$ 430V, HV and LV earth mats are to be segregated (minimum distance)

EPR or transferred voltage $<$ 430V, HV and LV earth mats to be combined

SEPARATE LV EARTH MAT

Calculated maximum resistance	Ohms
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ENW HV SUBSTATION

Is it proposed to combine or separated the HV and LV earth mats (YES OR NO)

TRANSFER POTENTIAL

Voltage transferred during L-G fault from Primary substation to site (include details of calculation)	Volts
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SITE CLASSIFICATION

HOT OR COLD

SPECIAL SITUATIONS

Section 2 - Substation sites

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2.5 Drawing & Information for the acquisition of legal consents, to include access routes to the substation for both plant and personnel. Details submitted to ENWL legal team via form LINK. For further guidance please visit our website; <http://www.enwl.co.uk/our-services/connection-services/competition-in-connections/information-for-icps-idnos/landrights>

Substation ownership - ENWL or IDNO

If substation to be owned by IDNO, is it going to be subject to the Incorporated Rights Process? (YES OR NO)

2.6 TLF Rating (AMPS)

2.7 CT Ratio

Section 3 - HV Metered Supplies

PLEASE NOTE: This form MUST be completed in full (tick or add detail in each box as applicable). It will be used by Electricity North West Limited to check that all the necessary information has been included with your design submission. Any incomplete design submissions may lead to it being rejected with a request for the missing information.

3.1 Location of meter panel

3.2 Location of customer's emergency trip button & capacitor trip unit

3.3 Where HV metered circuit breaker is being installed, a copy of the customer's private HV network diagram

3.4 HV protection details, completed ENWL protection settings form LINK

Information required to calculate the protection settings for Electricity North West equipment

Project Title: _____

Scheme No: _____

INFORMATION PROVIDED BY THE INDEPENDENT CONNECTION PROVIDER

Make & Type of Metered Circuit Breaker

Protection CT

Consumers Maxumim Import Capacity (MEC) kVA

Consumers Maxumim Export Capacity (MIC) kVA

Details of any consumers' private HV protection?

Size of consumer transformer

Extended length and size of HV cables from PoC

Single line schematic diagram to cover the above?

IF NO CONSUMERS HV PROTECTION THEN WE WILL ALSO NEED

Impedance for the transformer?

Length of the LV Transformer tails?

Details of the consumer's main LV incoming protection?

INFORMATION COMPLETED BY ELECTRICITY NORTH WEST

Supplying Primary Substation

Length of HV cables from feeding Primary to PoC

Proposed substation name

Proposed substation number

Section 4 - LV Supplies from a Substation

PLEASE NOTE: This form MUST be completed in full (tick or add detail in each box as applicable). It will be used by Electricity North West Limited to check that all the necessary information has been included with your design submission. Any incomplete design submissions may lead to it being rejected with a request for the missing information.

4.1 Number & size of customer single core cables

4.2 Length of customer single core cables

4.3 Location of remote metering panel

4.4 HV/LV protection details



Section 5 - LV Networks

PLEASE NOTE: This form MUST be completed in full (tick or add detail in each box as applicable). It will be used by Electricity North West Limited to check that all the necessary information has been included with your design submission. Any incomplete design submissions may lead to it being rejected with a request for the missing information.

- | | | |
|-----|---|--------------------------|
| 5.1 | LV Schematic drawing showing proposed network and volt drop information | <input type="checkbox"/> |
| 5.2 | Phase colours for single phase supplies | <input type="checkbox"/> |
| 5.3 | Metering layout & equipment specification for central metering installations | <input type="checkbox"/> |
| 5.4 | Volt drop & earth loop impedance calculations to the most onerous points on the network (at least one calculation per LV Way out of a substation) | |
| 5.5 | LV & Transformer protection details | |
| 5.6 | Metering arrangement details for any multi-occupied buildings, as per ENWL policy ES287 | |
| 5.7 | Name of the Company who will act as the Building Network Operator (BNO) | |

Section 6 - All Overhead Lines Installation

PLEASE NOTE: This form MUST be completed in full (tick or add detail in each box as applicable). It will be used by Electricity North West Limited to check that all the necessary information has been included with your design submission. Any incomplete design submissions may lead to it being rejected with a request for the missing information.

6.1 Pole specification (type/source of wood, height and girth)

6.2 Conductor specification (material & cross section)

6.3 Arrangement of pole top equipment (position & clearance)

6.4 Ground conditions & pole foundation arrangements

6.5 Stay arrangements

6.6 Route survey results including ground clearances, visual impact, span lengths, section lengthly etc

6.7 Detailed location plan for the acquisition of legal consents



6.8 Risk assessment of location regarding dangers of accidental contact or damage by public.
Details of any nearby structures, natural or man made etc

Section 7 - Pole Mounted Transformers

PLEASE NOTE: This form MUST be completed in full (tick or add detail in each box as applicable). It will be used by Electricity North West Limited to check that all the necessary information has been included with your design submission. Any incomplete design submissions may lead to it being rejected with a request for the missing information.

7.1 Details of pole mounted equipment & specification

7.2 Details of any nearby structures, natural or man made etc

7.3 Fusing arrangements (HV & LV, sizes etc)

7.4 Earthing arrangements

7.5 Transformer specification (maker, voltage, taps etc)

For the attention of
Address 1
Address 2
Address 3
Address 4
Address 5
Address 6

Tel: 0843 311 4351

alan.kemp@enwl.co.uk

01 January 2013

Dear **Patrick**

RE: **Acceptance Of Outline Plan of Works, GM Waste, IVC Plant, Nash Road, Trafford Park.**

I refer to your enquiry regarding the provision of a **1500** kVA connection to Electricity North West Limited system. From the information you have provided a scheme has now been prepared and the following Terms and Conditions are applicable which will also form the basis of a Connection Contract.

1 PROPOSAL

To cater for your requirements it is necessary to supply this scheme from a new **substation/cable** to be connected to Electricity North West Limited existing **High/Low** Voltage system.

Connection Details

- a) The Maximum Import Capacity will be ******** kVA.
- b) The exit point will be the outgoing terminals of the **6.6/11kV HV metered breaker OR LV metering panel.**
- c) The voltage at the exit point will be **11,000 / 6600 / 400** volts, 3 phase.
- d) The earthing arrangement will be the responsibility of the customer.
- e) In addition to any advance connection charge payment you will also be responsible for ongoing Use of System Charges in accordance with our published charging statement as amended from time to time. We will recover these from your electricity supplier who shall include them in their charges to you. For information, the current use of system charges that are likely to apply for this connection are given in our Use of System Charging Statement which can be found on our website 'www.enwl.co.uk'. Where the charges include a Maximum Capacity component, the capacity can only be reduced after a period of 12 months from the supply availability date. If you do not commence, or cease to take energy through this exit point for any reason during this 12 month period, then the balance of the Capacity Charges shall become payable to us.

- f) Please note, the use of the connection is covered by the 'National Terms of Connection' and details can be found at 'www.connectionterms.co.uk'.

Metering

I understand you have not nominated your Meter Operator.

VAT

Charges are shown exclusive of VAT at the appropriate rate.

Conditions

The terms are subject to the following site-specific conditions and Electricity North West Limited General Conditions of Contract, which can be viewed at <http://www.enwl.co.uk/content/ourservices/electricityconnections.aspx>.

1. These terms and Conditions are open for acceptance for a period of 30 days from the date of this letter. **Please note however, that this date is not a commitment to carry out the work by this date but is given purely as an indication of the current working programme for this type of work.**
2. If there is any change to the information you have given it may be necessary to revise the scheme and adjust the terms accordingly.
3. A **remote HV/modular LV** metering panel will be supplied and installed by your Independent Connections Provider.
4. Large motors, welders or any other equipment likely to cause interference with other customers cannot be connected without prior approval from Electricity North West Limited. Frequent start is more than one start in any consecutive 2 hourly period. If complaints arise as a consequence of failing to comply with the above, you will be required under these terms to disconnect the offending equipment. In addition, all costs attributed to any corrective work will be your responsibility.
5. The new installation will not be connected until a Wiring Completion Certificate is received and satisfactory test results obtained.
6. We will not be responsible for permanently reinstating the surface of private land (including the surface of streets and pavements not adopted by the Highways Authority) after the cables have been installed.
7. That we are able to obtain, at no cost to us, all necessary legal consents for the work as planned.
8. When our work is completed you will be required to make arrangements to transfer all your existing circuitry to the new exit point for once established the existing one will be disconnected. However, until it is finally removed it must be treated as being "live".
9. These Terms and Conditions relate up to the exit point only. They do not include any Contracting work on your installation.

10. That the load is balanced as far as practicable over the three available phases.
11. For as long as the equipment is connected to our system, we will require accommodation for Electricity North West Limited service apparatus and access to it for inspection, repairs and maintenance. If you wish us to relocate any of our apparatus this, if practicable, will be carried out at your expense.
12. Arrangements should be made to ensure that any standby generators cannot operate in parallel with our system. Where a generator is present, a drawing should be submitted for Electricity North West Limited approval showing the proposed method of electrical connection.
13. That we are able to carry out any work as planned. Any variations to these proposals must be agreed in writing with the site Construction Engineer, who will also arrange for any additional costs to be submitted to you.
14. That all work is undertaken during Electricity North West Limited normal working hours.
15. A metering point on Electricity North West Limited distribution system may not be energised unless an electricity supplier has registered with Electricity North West Limited to supply electricity at that point.

These Terms and Conditions form a contract. If they are acceptable to you, please sign and return the complete second copy of this letter and your completed 'End User Questionnaire'.

If a dispute arises which we cannot resolve, you can contact Energy Ombudsman at PO Box 966, Warrington, WA4 9DF, by telephone on 0845 055 0760 or online at www.energy-ombudsman.org.uk, who will assist in resolving the dispute.

Yours faithfully,

A handwritten signature in black ink, appearing to read "Alan Kemp", written over a light blue rectangular background.

Alan Kemp
Asset Adoption Engineer
Electricity North West Limited



ACCEPTANCE
(SCHEME TITLE)

Please note that in this letter “you” and “your” refer to the user of the Exit Point, irrespective as to whether this correspondence is between Electricity North West Limited and the Users agent, or directly between Electricity North West Limited and the User. This is because acceptance of our terms could commit the user to the payments of a connection charge or the payment of Use of System Charges, or both.

An agent may accept the terms on behalf of the user, in which case it is understood that the agent is acting with the full knowledge and consent of the user. **It is strongly recommended that an agent obtains this authority in writing otherwise any outstanding Use of System Charges may be sought from the agent.**

I confirm that I have read these Terms and Conditions contained in this letter and the requirements attached and in consideration of Electricity North West Limited providing the Exit point, I have requested, and as described above, I agree to be bound by them.

Signed..... Date.....
Name Designation.....

* Signed by user / agent (delete as appropriate)

If by Agent then; -
Company Name of User
Address of Registered Office
.....
.....
.....
.....
Name of Agent

Project No: *****
Scheme Title: – SCHEME TITLE

METER OPERATOR

I intend to appoint the following as my Meter Operator
.....



(Acceptance continued – *****)

ELECTRICITY SUPPLIER

Under the 1998 Trading Arrangement a customer may choose to change his supplier at any time. However, it is important that you remain with the existing supplier for the premises during any alterations to achieve your increased supply capacity. If you subsequently decide to change your supplier please do not initiate this until after your increased supply capacity has been made available.

As advised in previous correspondence, it is essential that you inform the present supplier of your intention to increase the agreed supply capacity. In accepting these terms and conditions it is deemed that you have done so.

NOMINATION OF ELECTRICITY SUPPLIER

In order to provide a connection to your premises I need to know who your nominated Electricity Supplier is;

My nominated supplier is.....

PLEASE RETURN THE WHOLE OF THIS LETTER NOT JUST THE ACCEPTANCE PAGES.

If calling please ask for Mr **Alan Kemp**

Declaration by the End User of
SCHEME TITLE

I agree to pay Availability Charges based upon a Maximum Import Capacity of **xxxxxxxxxx** kVA for a minimum period of 12 months from the date the connection is energised.

In addition to any advance connection charge payment, you will also be responsible for ongoing Use of System Charges in accordance with our published charging statement as amended from time to time. We will recover these from your electricity supplier who shall include them in their charges to you. For information, the current use of system charges that are likely to apply for this connection are given in our Use of System Charging Statement which can be found on our website 'www.enwl.co.uk'. Where the charges include a Maximum Capacity component, the capacity can only be reduced after a period of 12 months from the supply availability date. If you do not commence, or cease to take energy through this exit point for any reason during this 12 month period, then the balance of the Capacity Charges shall become payable to us.

Please note, the use of the connection is covered by the 'National Terms of Connection' and details can be found at 'www.connectionterms.co.uk'.

Signed Date.....

On behalf of

.....

.....

Scheme No: **xxxxxxxx**

Third Party Land

