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ENWL ICP / IDNO Workshop

27 September 2019

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Agenda

Morning Session

Welcome & Introduction

EV Charging & ADMD Strategy

Policy Updates

Earthing : Top Tips & Lessons Learned

Land Rights & Consents

Heatmap Tool Demonstration

IDNO Engagement

Lunch & Networking (12pm – 12:45pm)

Afternoon Session

Organisational Changes

Post-acceptance Process

Adoption Agreements Update

Flexible Services

Network Management System Update

Assessment & Design Fees Update

Ofgem Charging Review Update

ICE Workplan Update

Panel Question & Answer Session

Meet the Team

Mark Williamson

Energy Solutions Director

Mark is a chartered engineer with over **30 years experience** in the electricity supply industry. He is responsible for all new connections to the Electricity North West network in the North West of England. In addition, via our ENWL Construction and Maintenance Ltd division provides control, operation, maintenance and construction services for customer's with private high and low voltage networks.

Peter Twomey

Planning Policy Manager

Peter joined Electricity North West in 1998 and has held a number of roles since then, mainly in the area of design and planning. His current role is Planning Policy Manager, with responsibility for network design policy at all voltages.
Peter represents Electricity North West in numerous national working groups. Prior to joining Electricity North West, he spent several years in the nuclear power industry.

Gillian Williamson

Strategic Planning- High Voltage Manager

Gill's role in Strategic Planning includes managing the HV connections team, providing technical support to customers' from identification of least cost points of connection through post acceptance including protection reviews, fault level studies, power quality assessments and earthing. Gill is also involved in our Distribution Future Electricity Scenarios and supporting fulfilment of our compliance with Engineering Recommendations G98 and G99.

Gregg Davies

Land Rights and Consents Manager

Gregg manages the secondary networks Land Rights and Consents team in Cumbria and north Lancashire. Greg's team negotiate all of the legal consents and land rights necessary to maintain and develop ENWL's network. His team negotiate and settle all land damage claims caused by works on privately owned land and are responsible for maintaining good working relationships with ENWL's grantors in the north of the region.

Meet the Team

Simeon Knights

Land Rights and Consents Manager

Simeon has been working on the Land Rights and Consents team for over 15 years. His team is responsible for the acquisition of all land rights, including all necessary statutory, planning and environmental consents necessary for the development, maintenance and protection of the electricity distribution system on private land, involving overhead lines, underground cables
and substations.

Chris Fox

Head of Business Connections

Chris Fox, Head of Business Connections, leads a fantastic team of over 60 engineers and technicians. His team help serve our customers by finding great solutions that help them develop and grow their business throughout the north west of England.

Jonathan Cropper

Delivery Manager

Jonathan joined Electricity North West in 2015 following a 20 year career in IT. He has worked as a delivery manager in Business Connections since joining and is responsible for the design, construction and energisation of schemes across Lancashire.

Lois Clark

Business Analyst

Lois works within the Capacity Strategy team. Her role is centred around flexible services and contracted capacity, helping to find innovative alternatives to traditional reinforcement solutions. This is a key activity within the industry, which aims to keep customers bills down, as well as boosting revenue for participating customers.

Meet the Team

Alan Astall

Network Management HUB Change Manager

Alan has worked at Electricity North West for 18 years, during which time he has worked in various roles.
A major part of Alan's current role as the Network Management HUB Change Manager is to ensure the Network Management HUB is leading the way in preparation for the new Network Management System.

Brian Hoy

Head of Market Regulation

Brian has over 30 years of experience working in the electricity industry. He has an engineering background but has worked in the regulatory aspects of new connections for a number of years. Brian represents Electricity North West on connections related matters and leads a number of national industry groups.

Hannah Sharratt

Connections Stakeholder Engagement & Regulation Manager

Hannah has over 20 years experience in the Utility industry, mostly in programme and project management roles. Hannah's current role focuses on our Connections stakeholder engagement .

What do we want from you today?

- One word – **Feedback!**
- Use the feedback forms and give us your honest opinion
- Contact me, the ICE team or your usual contacts in ENWL at any time to give us feedback
- Mark.Williamson@enwl.co.uk
- ice@enwl.co.uk

Domestic Arrangements

- Don’t forget to sign in!
- No Fire Alarms planned
- Emergency Assembly Point
- WCs
- Mobile Phones

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Electric Vehicle Connections

Gill Williamson

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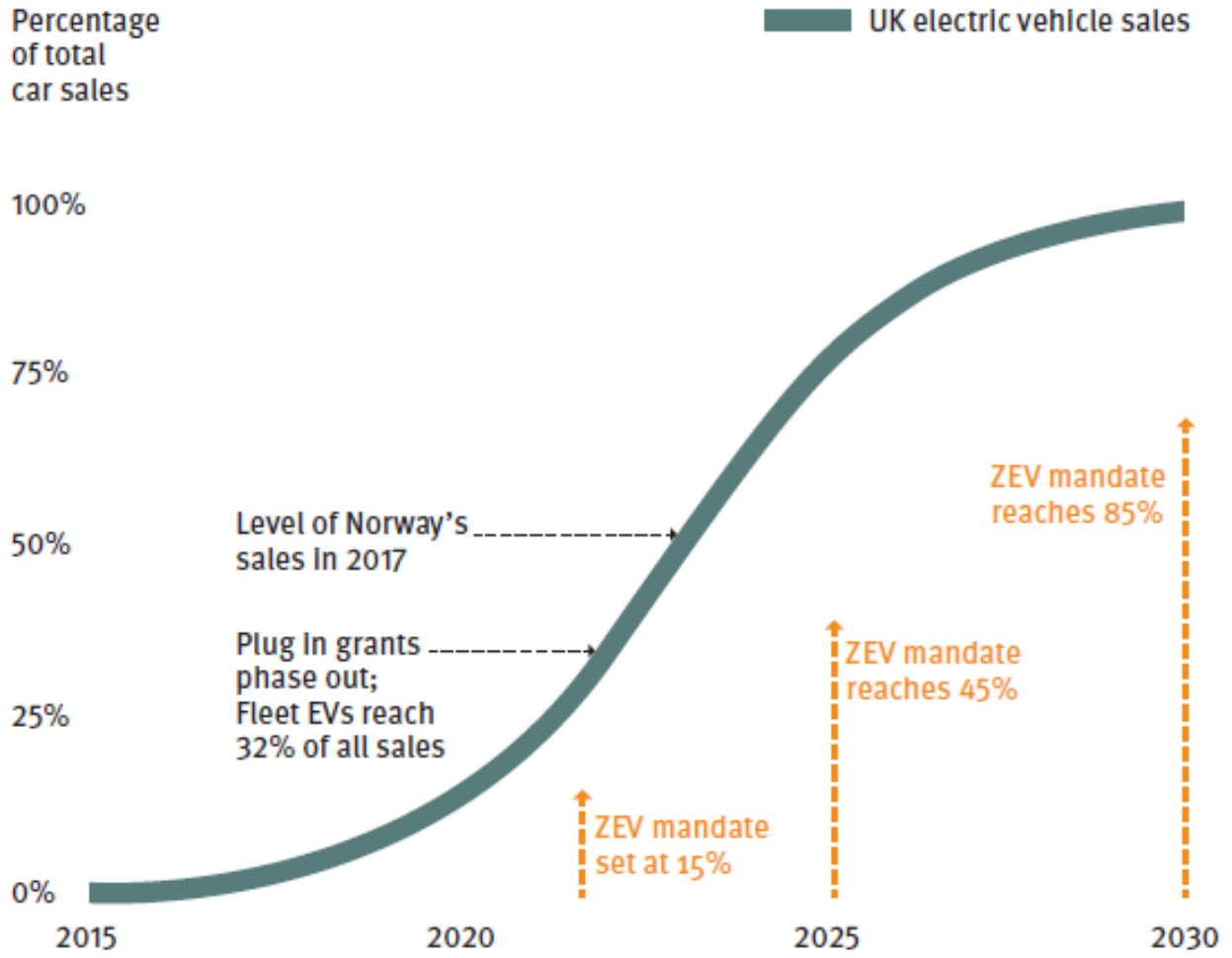
Background

- UK Government law - zero carbon by 2050
- Petrol & diesel vehicles banned 2030
- Electric Vehicles are critical to achieving this
- As a DNO, Electricity North West has a key role
  - Enable economic connections
- Electric Vehicle uptake will increase



Domestic EV Connections

- Follow the ENA connection process for Electric Vehicles and Heat Pumps
- Installer assesses service capacity:
  - Connect & notify ENWL if total domestic demand inc EV is less than 60A
  - Apply to connect if total demand is more than 60A or service rating inadequate
- Multiple applications – use diversity values in EREC P5
- ENA website http://www.energynetworks.org/electricity/futures/electric-vehicles-and-heat-pumps.html

- More detail in the November webinar

Public EV with aggregate demand >75A

- High capacity EV Charge points for public & customer use
- Known to be potentially disturbing load – power quality assessment (G5/4)
- Emissions data required
- More detail in the November Webinar

Electricity North West policy for EV connections

- A new policy document covering the connection of Low Carbon Technologies:
  - ES230 – Connection of LCTs
- Other relevant documents:
  - EPD283 LV Network Design – ENWL website
  - EREC G5/4 Harmonic Voltage distortion – Distribution Code Website
  - ENA LCT Connection process – ENA Website

November Webinar

- Proposed to run through processes in more detail
- Focus on the ENA Connection process and G5/4 two stage assessment
- Date TBC – watch this space!

Questions?

Questions & Answers?

Policy Updates

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Selected policy updates

Policy document	Date of change	Summary of change
ES230 Connection of LCTs	July 2019	New document covering the connection procedures for LCTs including heat pumps and electric vehicles
ES259 Generation Connected to the ENWL Network	May 2019	Modifications to align with ERECs G98 and G99
CP411 Pt1N	September 2019	New LV jointing manual – replaces previous version
CP510 Commissioning of Metering CTs and VTs	July 2019	Commissioning processes modified with SLAs added. Refer to flow diagrams in Appendix D
CP615 Substation, Circuit & Plant Identification	May 2019	Minor changes to link box naming conventions
CP606 System Operations	2019	Numerous changes including A06, B08, S53, S10, S46, G19, G12. How do authorised staff receive updates to CP606?

This is a small extract only of documents most likely to be relevant. All updates are on the Policy Newsletters which can be found in the G81 part of the ENWL website.

ICP Earthing Recap, Hints and Tips

Gill Williamson

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Agenda

We want to share our experience to date to enable us to work better together

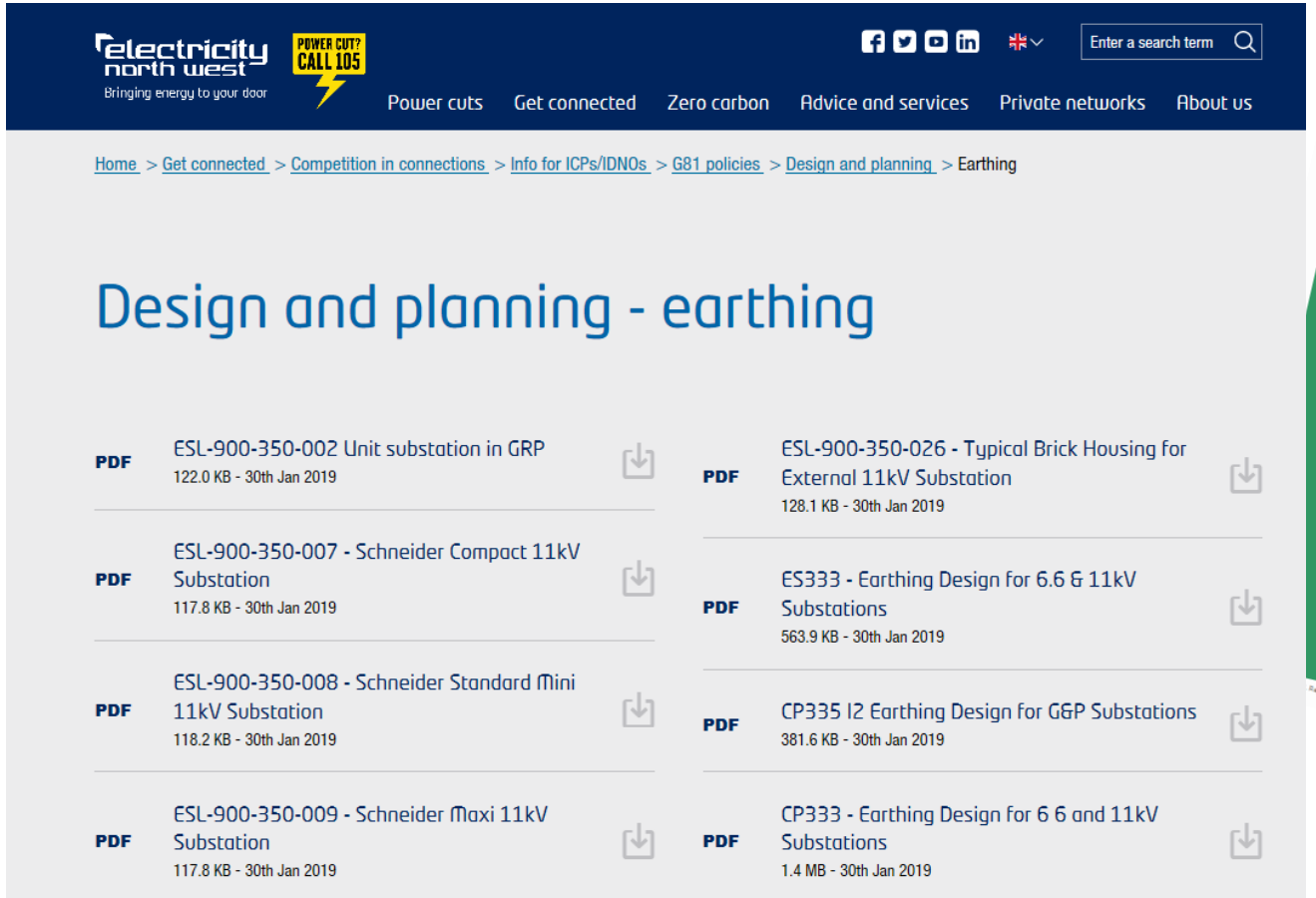
Code of Practice 333

Earthing Process – ENWL's Initial Indication, your design & our approval

Experience to date – Hints & Tips

CP333 and Associated Documents

- Code of Practice CP333 and associated processes live in January 2019 communicated in advance
- Code of Practice, Electricity Specification and associated drawings on our website
- https://www.enwl.co.uk/get-connected/competition-in-connections/info-for-icpsidnos/g81-policies/designandplanning/earthing/



ICP Earthing process – high level process

ICP

Acceptance

Earthing design submission

Submit Earthing Measurement

Energisation Request

Energisation

Electricity North West

Provide initial indication of Hot/Cold

Approve/Reject earthing design

Reject earthing measurement
Review Energisation date & request resubmission

Approve earthing measurement

ICP Earthing Process – Initial Indication

We will give initial indication based on our earthing assessment

What we will say...

Global Earthing System (GES)

You can use the ENWL standard earth design

Cold

You can use the ENWL standard earth design

Potentially Hot

Initial assessment has concluded that the site could be Hot with our standard design

We provide detailed data for your own assessment & design

You decide how you want to proceed

ICP Earthing Process – Earth Design

You decide on the earthing design you will install

If ENWL's initial assessment concludes GES...

- You inform us and install ENWL's standard earth design **OR**
- You install another earthing design which you must prove provides the same performance as ENWL's standard design or you prove it is compliant with CP333

If ENWL's initial assessment concludes Cold...

- You inform us and install ENWL's standard earth design **OR**
- You install another earthing design which you must prove provides the same performance as ENWL's standard design or you prove it is compliant with CP333

If ENWL's initial assessment concludes Potentially Hot...

- You make a more detailed earthing assessment based on measured soil resistivity values
- You finalise your design and prepare a report demonstrating compliance with CP333 and define mitigations if a Hot site

ICP Earthing Process – Earthing Design Approval

We need the following to approve your earthing design

What we need to review your earthing...

GES

- ENWL standard earth design
- If using another design we need an associated assessment to show compliance
- As-laid diagram (ref ENWL earth drawing no. as appropriate)
- Fall of Potential test results

Cold

- ENWL standard earth design
- If using another design we need an associated assessment to show compliance
- As-laid diagram (ref ENWL earth drawing no. as appropriate)
- Fall of Potential test results

Potentially Hot but made Cold

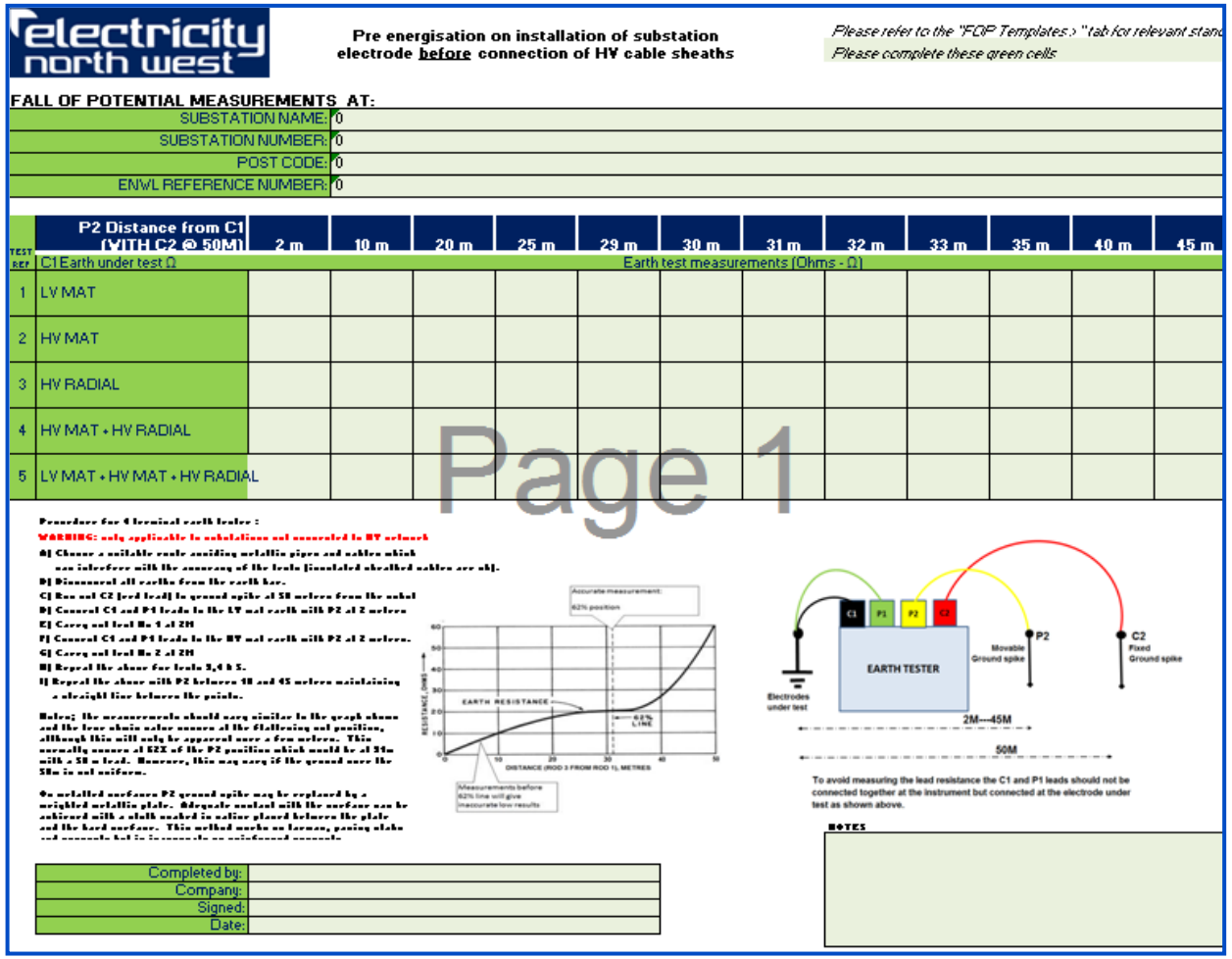
- Earth Design report (showing CP333 compliance)
- As-laid diagram
- Fall of Potential test results

Hot

- Earth Design report CP333 compliance &mitigations
- As-laid diagram (ref drawing no.)
- Fall of Potential test results
- Separation test results

ICP Earthing Process – Earthing Design Approval

Gentle reminder – please use our template for reporting Fall of Potential results



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Pre energisation on installation of substation electrode before connection of HV cable sheaths

Please refer to the "FOP Templates" tab for relevant stand
Please complete these green cells

FALL OF POTENTIAL MEASUREMENTS AT:

SUBSTATION NAME:	0
SUBSTATION NUMBER:	0
POST CODE:	0
ENWL REFERENCE NUMBER:	0

TEST REF	P2 Distance from C1 (WITH C2 @ 50M)	2 m	10 m	20 m	25 m	29 m	30 m	31 m	32 m	33 m	35 m	40 m	45 m
	C1 Earth under test Ω	Earth test measurements (Ohms - Ω)											
1	LV MAT												
2	HV MAT												
3	HV RADIAL												
4	HV MAT + HV RADIAL												
5	LV MAT + HV MAT + HV RADIAL												

Page 1

Procedure for 4 terminal earth tester :

WARNING: only applicable to substations not connected to HV network

a) Choose a suitable route avoiding metallic pipes and cables which may interfere with the accuracy of the tests (insulated sheathed cables are ok).

b) Disconnect all earths from the earth bar.

c) Run out C2 [red lead] to ground spike at 50 metres from the substation

d) Connect C1 and P1 leads to the LV mat earth with P2 at 2 metres

e) Carry out test No 1 at 2M

f) Connect C1 and P1 leads to the HV mat earth with P2 at 2 metres.

g) Carry out test No 2 at 2M

h) Repeat the above for tests 3,4 & 5.

i) Repeat the above with P2 between 10 and 45 metres maintaining a straight line between the points.

Below; the measurements should vary similar to the graph shown and the true chain value ensure at the flattening out position, although this will only be apparent over a few metres. This normally occurs at 62% of the P2 position which would be at 31m with a 50 m lead. However, this may vary if the ground over the 50m is not uniform.

On metalled surfaces P2 ground spike may be replaced by a weighted metallic plate. Adequate contact with the surface can be achieved with a cloth soaked in saline placed between the plate and the hard surface. This method works on tarmac, paving slabs and concrete but is unsuitable on reinforced concrete.

To avoid measuring the lead resistance the C1 and P1 leads should not be connected together at the instrument but connected at the electrode under test as shown above.

NOTES

Completed by:	
Company:	
Signed:	
Date:	

ICP Earthing Process – Procedural Points to Note

We want to share our experience to date to enable us to work better

Earthing is safety critical and therefore of utmost importance

Approval of earthing design is required prior to energisation

Additional earth electrodes need to be included in legal agreements

Please allow 10 days for our review

Delays in approval of earthing could delay energisation

Lessons Learnt – Hints and Tips

Please review your consultants reports

All studies should be accurate and comprehensive

All diagrams should be clear and legible

We may charge for abortive work if the submissions are found to contain a significant number of errors

Lessons Learnt – Technical Hints and Tips

A few of the technical issues we have encountered...

Wrong measurements used in report

Metal fence

Lighting column

PME electrodes

Lessons Learnt – Technical Hints and Tips

Refined technical approach ...

Accurate protection time can be considered instead of 60 seconds

Iterative fault current calculation is appropriate

Installation of tarmac is a valid approach

Questions

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Land Rights & Consents

Simeon Knights

Secondary Networks Manager, South

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Land Rights and Consents

- We’ve changed our name!

- The team is split between the north and south regions which now mirror our operational team’s boundaries.

- We are here to protect the assets being installed by acquiring the necessary consents, not to delay your scheme.

Land Rights & Consents Update

- We can provide updates on the consents acquisition process.
  - We have trialled an approach to provide updates on acquiring consents with Aptus. We are now extending this approach to all ICPs.
- Requests should be issued to our wayleaveenquiries@enwl.co.uk mailbox for updates.
  - Please ensure you include the Energy Solutions reference number and the full postal address of the site.
  - The enquiries team will pass your request to Gregg Davies and Simeon Knights as the north and south area managers.

Example Update request

SITE ADDRESS	ENERGY SOLUTIONS REFERENCE	UPDATE
41 Toytown Square, Manchester, M1 2AB	5500111111	Scheme is with legal and our solicitors and the owners solicitors are close to agreeing the form document
100-110 Noddy Street, Preston, PR1 2AB	5500222222	Not been instructed
17 Plots at Big Ears Road, Carlisle, CA1 2AB	5500333333	Awaiting the return of the heads of terms from your client

Land Rights & Consents

- Monthly updates can be provided for your schemes, usually within 5 working days of a request.
- The updates will be sent directly to the instructing email address.
- Any subsequent comments or responses will be dealt with under similar terms.

Land Rights and Consents
Earthing requirements process

Submit Earthing requirements and design to ENWL

(as early as possible in the consents acquisition process to avoid delays)

Approved design is forwarded to the Land Rights & Consents team.

Any additional consents for earthing from 3rd party landowners will need to be agreed by the ICP.

Once terms are agreed we will progress the acquisition of the consent through our solicitors.

All associated costs with the third party acquisition will be the responsibility of the ICP / developer.

Land Rights and Consents
Earthing requirements process

Legal documentation can be amended up to the point of legal completion.

Amendments must be completed before the documentation is issued for signature by the solicitors ('Engrossments')

Energy Solutions informed when all legal documentation is in place (both on the developers site and on 3rd party owned land)

If amendments are required after legal completion, additional direct and indirect costs will be incurred including, but not limited to, our additional legal fees.

Energisation approved

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Heat Map Tool

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New Heat Map Tool launched 28 January 2019

Identifies nearest substations

Indicates the ability to make connection there

Accompanied by maps of substation locations

Download here: https:/www.enwl.co.uk/get-connected/network-information/heatmap-tool/

- Does not replace detailed assessments
- Indication of constraints doesn't mean that we can't connect you

Heat Map Tool

Excel Workbook

Tools

Background Data

User Guide and Network Maps

11kV & 6.6kV Connections

33kV Connections

Primary Headroom Data

BSP Headroom Data

Transmission Capacity

Workbook Tabs

Heat Map Tool – Tab 1) User Guide and Network Maps

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User Guide

With this tool we aim to provide our customers with information on where there is spare capacity for new developments to connect to our network without triggering reinforcement work. To aid our customers in interpreting the information contained within this tool we have produced a user guide which can be found below. Please note that the data presented in this tool is based on high level analysis and as such may differ from the results of a formal connection application.

If your proposed development falls within an area with limited network capacity please contact us to discuss a possible solution.

We will always to work with customers to overcome network constraints whether this is through traditional reinforcement or smart network solutions.

Heatmap Tool - User Guide.pdf

Map Data

The maps below provide the customer with an overview of the location of key assets:

Cumbria Supply Region.pdf

Lancashire Supply Region.pdf

Manchester & Peak Supply Region.pdf

Last Updated:	25.01.2019

User Guide

Maps of BSP & Primary substation locations and roads

Heat Map Tool –Tabs 2 & 3) 11kV & 6.6kV & 33kV Connections

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11 kV & 6.6 kV Connections

The results given by this tool are based on high level approximations only. It should also be noted that the network ... since the last time the data was updated. As such, the outcome of a formal application may differ from the results given by this tool. For further information on how to inter... ...ined within this workbook please refer to the user guide embedded within the first tab.

Inputs	
Easting	Enter Data
Northing	Enter Data
Scheme Capacity (MW)	Enter Data
Connection Type	Enter Data

... the controls to the left to find the nearest primary substations to your site. The results will be displayed in the table below. When the desired site capacity and connection type are entered an estimate of available headroom and connection feasibility will be displayed. The results are based on both local constraints and constraints at the associated BSP.

Results

No	Distance (km)	Primary Substation	BSP Group	GSP Group	Primary Substation Location		Headroom (MW)	Can be accommodated? (RAG)
					Easting	Northing		
1	0.34	TRINITY	FREDERICK RD	KEARSLEY	382649	398230	0.0	
2	0.63	BLACKFRIARS	FREDERICK RD	WHITEGATE	383030	399104	4.1	
3	0.66	CHAPEL WHARF	FREDERICK RD	KEARSLEY	383499	398634	8.3	
4	0.71	DEANSGATE	BLOOM ST	SOUTH MANCHESTER	383463	398149	6.6	
5	0.83	KNOTT MILL	BLOOM ST	SOUTH MANCHESTER	383136	397725		
6	1.12	BRIDGEWATER	BLOOM ST	SOUTH MANCHESTER				
7	1.22	CANNON ST	RED BANK				5.1	
8	1.43	FREDERICK RD	FREDERICK RD		381697	399348	10.2	
9	1.48	DICKINSON ST	BLOOM ST	SOUTH MANCHESTER	384109	397722	0.0	
10	1.55	STRANGEWAYS	RED BANK	WHITEGATE	383780	399743	5.1	

Connection Types

Demand Firm	The connection of load which is secure for a first circuit outage.
Demand N-0	The connection of load which can be actively constrained off under outage conditions
Generation Synchronous (LV)	Generation such as diesel or gas turbines connected to the HV network through step up transformers.
Generation Synchronous (HV)	Generation such as diesel or gas turbines connected to the HV network directly i.e. without step up transformers.
Generation Inverter Based	Generation technologies connected by inverters this typically includes solar and wind generators
Battery Energy Storage	Inverter connected battery energy storage schemes

User enters connection requirements:

- Grid co-ordinates
- Required capacity
- Connection type

i.e. Demand or generation

Results

- Nearest **Primaries/BSPs**
- Headroom
- Can be accommodated? (RAG)

Heat Map Tool – Tabs 4 & 5) Primary & BSP Headroom Data

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Primary Substation Headroom

Primary Substation	Voltage (kV)	BSP Group	GSP Group	Primary Substation Location		Demand Headroom (MW)		Generation Headroom N-0 -(MW)			Battery Storage Headroom N-0 -(MW)
				Easting	Northing	Firm	N-0	Inverter Based	Synchronous - LV	Synchronous - HV	
ALBION ST	6.6	LOWER DARWEN	ROCHDALE	367434	426087	0.0	13.7	0.0	0.0	0.0	0.0
ALDERLEY	11	MOSS NOOK	SOUTH MANCHESTER	385044	379026	7.8	14.8	11.2	2.0	1.4	11.2
ALSTON	11	PENRITH & SHAP	HARKER / HUTTON	372125	546499	0.0	0.0	3.7	3.7	3.7	0.0
AMBLESIDE	11	KENDAL (PARKSIDE RD)	HARKER / HUTTON	337602	503506	7.5	16.7	0.0	0.0	0.0	0.0
ANCOATS NORTH T11 & T12	6.6	RED BANK	WHITEGATE	385022	398830	0.0	1.2	32.2	6.9	5.0	1.2
ANCOATS NORTH T14	6.6	RED BANK	WHITEGATE	385032	398840	0.0	5.1	20.0	20.0	16.0	5.1
ANNIE PIT	11	STAINBURN & SIDDICK	HARKER / HUTTON	300011	527810	2.4	6.9	0.0	0.0	0.0	0.0
ANSDELL	6.6	LYTHAM	PENWORTHAM WEST / STANAH	334416	428229	7.1	10.1	21.6	10.2	7.4	10.1
ARDWICK	6.6	STUART ST	STALYBRIDGE	384753	397415	0.0	1.3	24.2	14.1	10.3	1.3
ARNSIDE	11	KENDAL (PARKSIDE RD)	HARKER / HUTTON	346495	478180	9.7	13.4	0.0	0.0	0.0	0.0
ASHTON (GOLBORNE)	6.6	GOLBORNE	BOLD	357056	400663	0.3	7.8	0.0	0.0	0.0	0.0
ASHTON (RIBBLE)	6.6	RIBBLE	PENWORTHAM EAST / ROCHDALE	350275	430526	3.1	3.1	10.5	2.0	1.4	3.1
ASHTON ON MERSEY	6.6	SALE	CARRINGTON	377188	392252	9.9	14.0	28.8	9.2	6.7	14.0
ASHTON UNDER LYNE T11 & T12	6.6	HARTSHEAD-HEYROD	STALYBRIDGE	393275	399319	4.4	8.5	7.0	2.0	1.4	7.0
ASHTON UNDER LYNE T13	6.6										
ASHWOOD DALE	6.6										
ASKAM	11										
ASKERTON CASTLE	11										
ASPATRIA	11										
ATHERTON TOWN CENTRE	11										
ATHLETIC ST	6.6										
AVENHAM	6.6										
BAGULEY	11										
BAMBER BRIDGE	11										
BARBARA ST	6.6										
BARROW	11										
BARTON DOCK RD	6.6										
BEDFORD	11										
BELGRAVE	6.6										
BENCHILL	11										
BENTHAM	11										
BISPHAM	6.6										

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BSP Headroom

BSP	Voltage (kV)	GSP Group	BSP Coordinates		Demand Headroom (MW)		Generation Headroom - N-0 -(MW)		Battery Storage Headroom N-0 -(MW)
			Easting	Northing	Firm	Non Firm	Inverter Based	Synchronous	
ADSWOOD	33	BREDBURY	389188	388310	55.6	73.6	150.1	54.1	73.6
AGECROFT	33	KEARSLEY	380345	401831	14.5	26.5	90.4	25.4	26.5
ALTRINCHAM	33	CARRINGTON	376380	389012	47.5	65.5	151.5	46.4	65.5
ATHERTON	33	KEARSLEY	366150	402088	19.2	37.2	94.5	17.1	37.2
BARROW	33	HARKER / HUTTON	319709	470489	39.4	79.4	80.2	14.5	79.4
BARTON	33	CARRINGTON	376758	397174	46.7	76.7	6.7	1.9	6.7
BELFIELD	33	ROCHDALE	391033	413945	55.3	74.9	54.7	12.9	54.7
BISPHAM	33	PENWORTHAM WEST / STANAH	332328	439711	33.9	51.9	40.6	7.4	40.6
BLACKBURN	33	PENWORTHAM EAST / ROCHDALE	370584	429294	60.0	77.6	84.4	36.6	77.6
BLACKPOOL	33	PENWORTHAM WEST / STANAH	330835	435308	28.6	46.6	36.9	6.7	36.9
BLOOM ST	33	SOUTH MANCHESTER	384221	397717	0.0	10.4	160.0	45.8	10.4
BOLTON	33	KEARSLEY	372255	410566	18.3	37.3	10.7	1.9	10.7
BURNLEY	33	ROCHDALE	385569	434469	58.1	76.1	10.7	1.9	10.7
BURY	33	KEARSLEY	380272	411184	23.9	23.9	10.7	1.9	10.7
BUXTON	33	STALYBRIDGE	407769	375476	0.0	48.3	10.7	1.9	10.7
CARLISLE	33	HARKER / HUTTON	338655	556583	7.6	28.6	6.7	1.9	6.7
CARRINGTON BSP	33	CARRINGTON	373110	393020	21.6	51.6	0.0	0.0	0.0
CASTLETON	33	ROCHDALE	388461	411290	19.9	58.9	122.6	23.0	58.9
CHADDERTON	33	WHITEGATE	389137	403821	10.5	10.5	98.3	17.8	10.5
DROYLSDEN	33	STALYBRIDGE	390140	398146	42.1	60.1	10.7	1.9	10.7
EGREMONT	33	HARKER / HUTTON	301070	513074	68.1	76.1	97.5	58.7	76.1
FREDERICK RD	33	KEARSLEY	381795	399250	0.0	10.2	6.7	1.9	6.7
GOLBORNE	33	BOLD	360607	397690	3.7	18.7	0.0	0.0	0.0
GREENHILL	33	WHITEGATE	393262	404755	31.3	31.3	38.5	7.0	31.3
HAZEL GROVE	33	BREDBURY	391313	386877	37.7	55.7	100.3	18.2	55.7
HARTSHEAD-HEYROD	33	STALYBRIDGE	397322	399942	27.4	84.4	6.7	1.9	6.7
HUNCOAT	33	PADIHAM	377997	431083	37.1	55.1	31.5	5.7	31.5
HYDE	33	STALYBRIDGE	395522	395647	53.8	71.8	10.7	1.9	10.7
KEARSLEY LOCAL	33	KEARSLEY	376355	404783	9.4	52.4	6.7	1.9	6.7
KENDAL (PARKSIDE RD)	33	HARKER / HUTTON	351915	491858	9.7	27.7	0.0	0.0	0.0
LANCASTER	33	HEYSHAM	348644	463628	25.7	25.7	10.7	1.9	10.7
LEYLAND	33	PENWORTHAM WEST / STANAH	354121	423373	25.1	43.1	0.4	0.1	0.4

Background Primary & BSP Headroom Data

- Basis of the previous tools

- Considers:
  - Network thermal capacity
  - Fault levels
  - Existing demand and generation
  - Accepted demand and generation

Heat Map Tool – Tab 6) Transmission Capacity

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Appendix G Summary

GSP / Site	Capacity of Connected & Contracted Connections (MW)				Materiality Headroom (Part 5) (MW)	Materiality Status	Capacity in Project Progression / Modification Application	Total Capacity of Connections (MW)	Transmission FL Headroom (kA)
	Part 1	Part 2	Part 3	Part 4					
Rainhill / Bold (Golborne)*	25.1	50.0	0.0	0.0	0	B	N/A	75.1	0
Bredbury	10.1	86.3	0.0	0.0	50	A	N/A	146.4	3
Carrington	105.0	233.0	0.0	0.0	0	B	N/A	338.0	3
Harker	671.0	123.7	0.0	143.9	0	C	143.9	938.6	0
Hutton	49.0	10.4	0.0	104.5	0	C	104.5	163.9	0
Heysham	302.0	0.0	0.0	133.6	0	C	133.6	435.6	0
Kearsley & Kearsley local	57.4	237.5	0.0	0.0	0	B	N/A	294.9	0
Kirkby	6.0	115.9	0.0	0.0	0	B	N/A	121.9	3
Macclesfield	27.9	20.0	0.0	0.0	50	A	N/A	97.9	3
Padiham	35.5	139.9	0.0	0.0	50	A	N/A	225.4	0.98
Pen East Roch / Pen West	189.6	709.1	0.0	0.0	0	B	N/A	898.7	3
Rochdale Main Part	204.7	158.2	0.0	0.0	50	A	N/A	362.9	3
South Manchester	22.2	109.9	0.0	0.0	50	A	N/A	182.1	0.5
Stalybridge	58.0	293.0	0.0	0.0	50	A	N/A	401.0	0.78
Stannah	195.9	59.5	0.0	0.0	0	B	N/A	255.4	0.64
Washway Farm	14.2	131.2	0.0	0.0	0	B	N/A	145.4	3
Whitegate	32.0	187.0	0.0	0.0	0	B	N/A	236.9	0

Appendix G Summary

- Lists all ENWL GSPs
- Indicates:-
  - Existing generation connections
  - Constrained generation connections
  - Future generation connections
  - **Thermal headroom**
  - **Fault level headroom**

Heat Map Tool – Summary

The new heat map tool provides:-

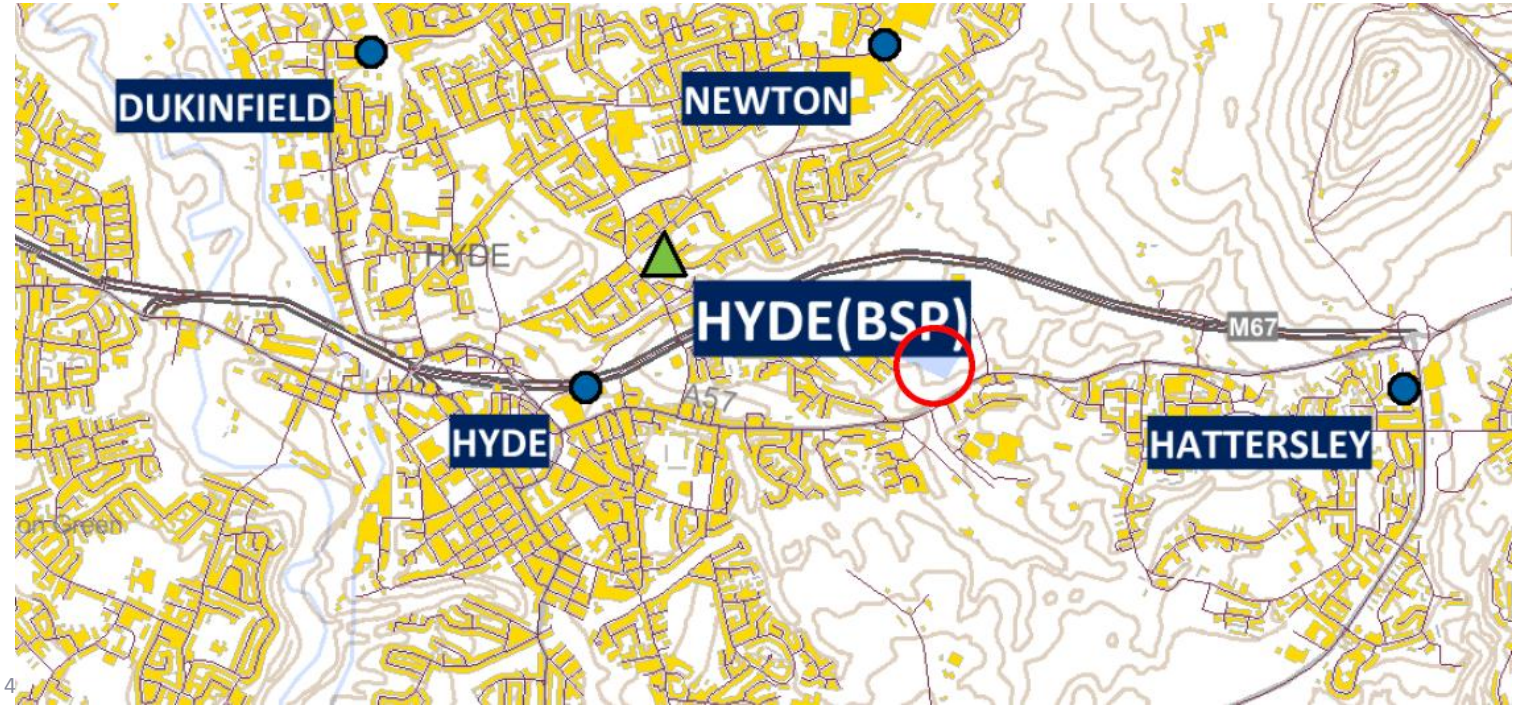
- Better quality information
- Improved accuracy
- Monthly refresh rate

Heat Map Tool – Generation Connection Demonstration

Easting 396500
Northing 395300

Required capacity 3 MW

Generation Inverter based



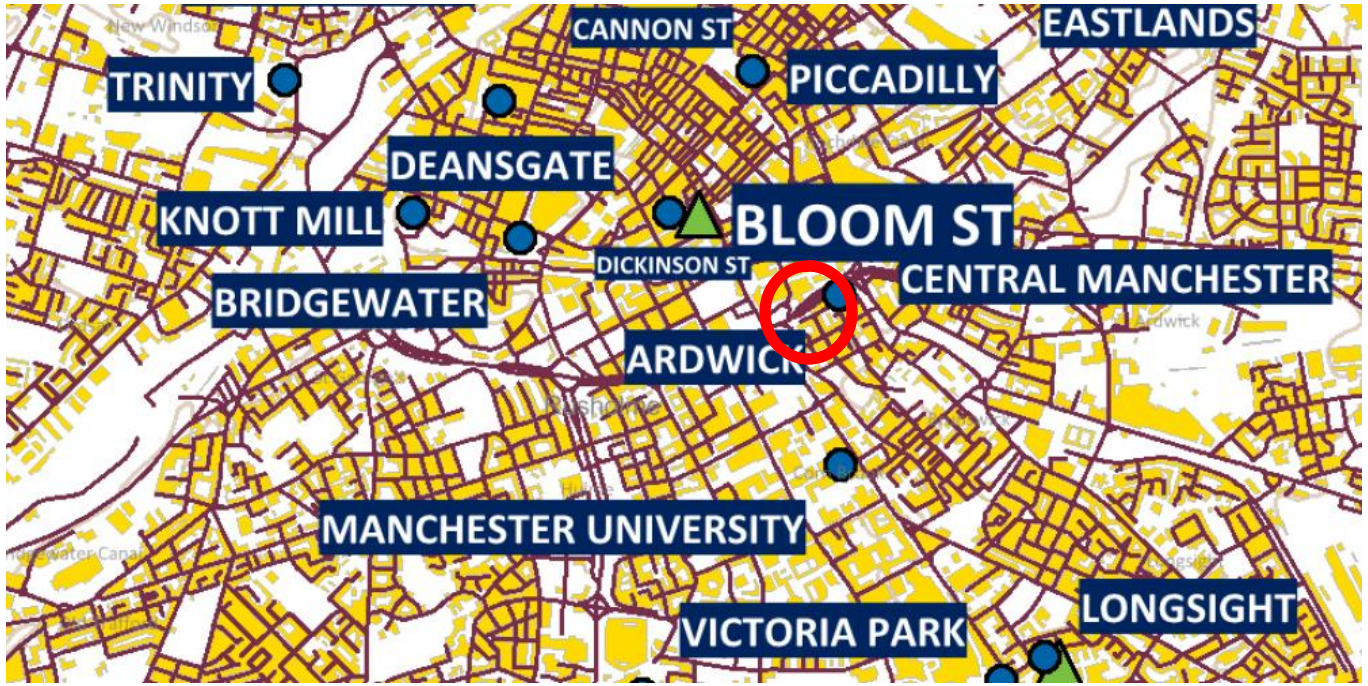
Generation at Godley, Hyde

Heat Map Tool – Demand Connection Demonstration

Easting 385000 Northing 397500

Required capacity 1 MW

Demand - Firm



Demand for Manchester Pride

IDNO Engagement

Brian Hoy

The changing energy landscape

A revolution is currently underway as the UK embraces a zero carbon future, and the way energy is generated, stored, consumed and traded is all evolving at a significant pace. The electricity industry is facing one of it's biggest challenges yet.

Increase in low carbon technologies

For the UK to meet it's decarbonisation targets, we expect to see a huge uptake in low carbon technologies

More demand on the network

This uptake will result in an increased demand on the network, which wasn't originally designed to cope with low carbon technologies

Reinforcement required

To be able to meet this demand, we will need to invest millions of pounds in reinforcing the network

Increased cost to customers

These costs are ultimately passed down to our customers through their electricity bills

As the energy landscape changes it only becomes more important that we make the right decisions for our customers, both now and for the future, ensuring we develop a resilient network that's value for money.

Our future electricity scenarios

Our future electricity scenarios play a key role in helping us make these decisions

Our five future electricity scenarios drive our demand forecasts; each scenario indicates how different influences can change electrical demand and generation on our network. The five scenarios are..

Slow Progression

Focus on Efficiency

Central Outlook

Green Ambition

Active Economy

We use the demand forecasts when considering different capacity provision solutions

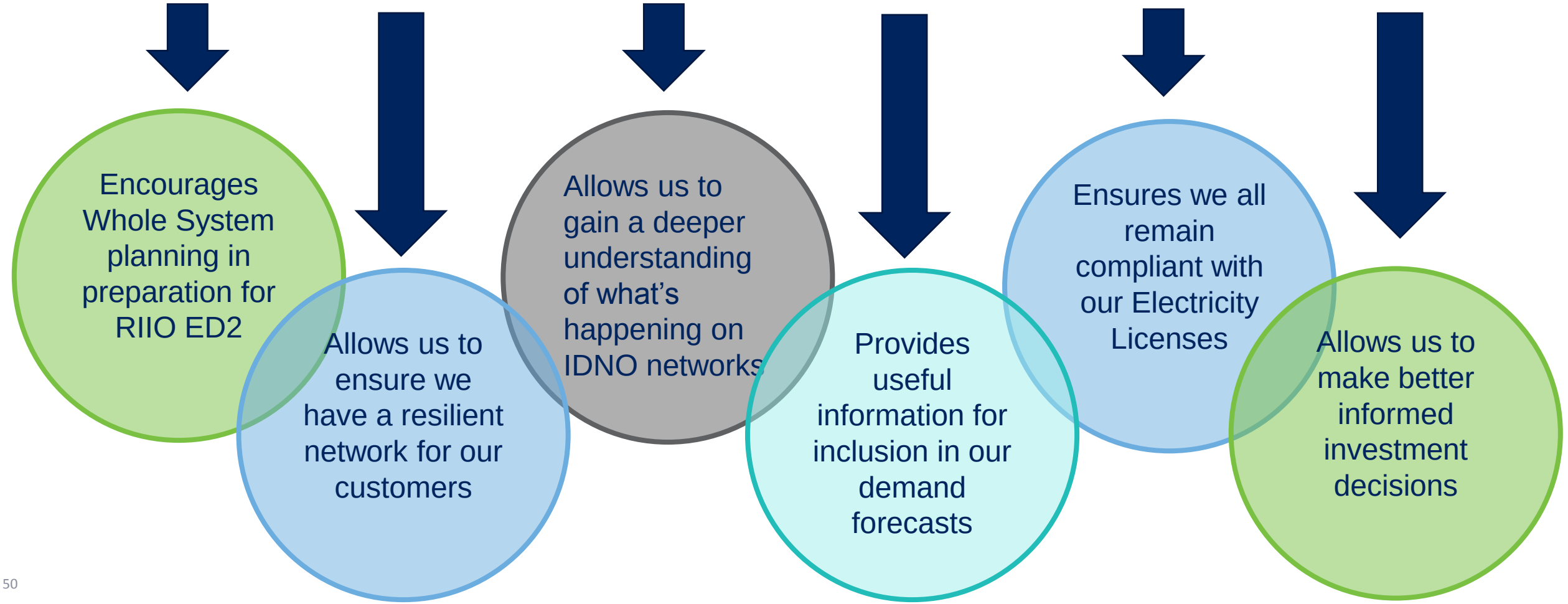
We use historical demand data and information about our network to produce the demand forecasts on an annual basis

But we've identified a **gap in our knowledge** when it comes to what's happening on IDNO networks

And this is something we plan to change through **further engagement with IDNOs**

Our plan for engagement

In November we'll be publishing a consultation document surrounding our engagement with IDNOs, with the aim to improve communication and data sharing. We see many benefits through further engagement with IDNOs, such as..



The consultation will cover

Current levels of engagement with IDNOs

Why we believe further engagement is important

How we plan to engage in the future

An opportunity for IDNOs

We are keen that this engagement be just as beneficial for IDNOs, and as such the consultation will invite IDNOs to help shape future engagement between our networks.

It will provide an opportunity for IDNOs to give their opinions on

- How they'd like to engage
- What they feel we can do to encourage better engagement
- What information would be beneficial to them
- What information they can share with us
- How often they'd like to engage

We'll be contacting IDNOs directly once the consultation has been published with an invitation to be

Lunch and Networking

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Energy Solutions Business Connections Roles & Responsibilities changes

Chris Fox

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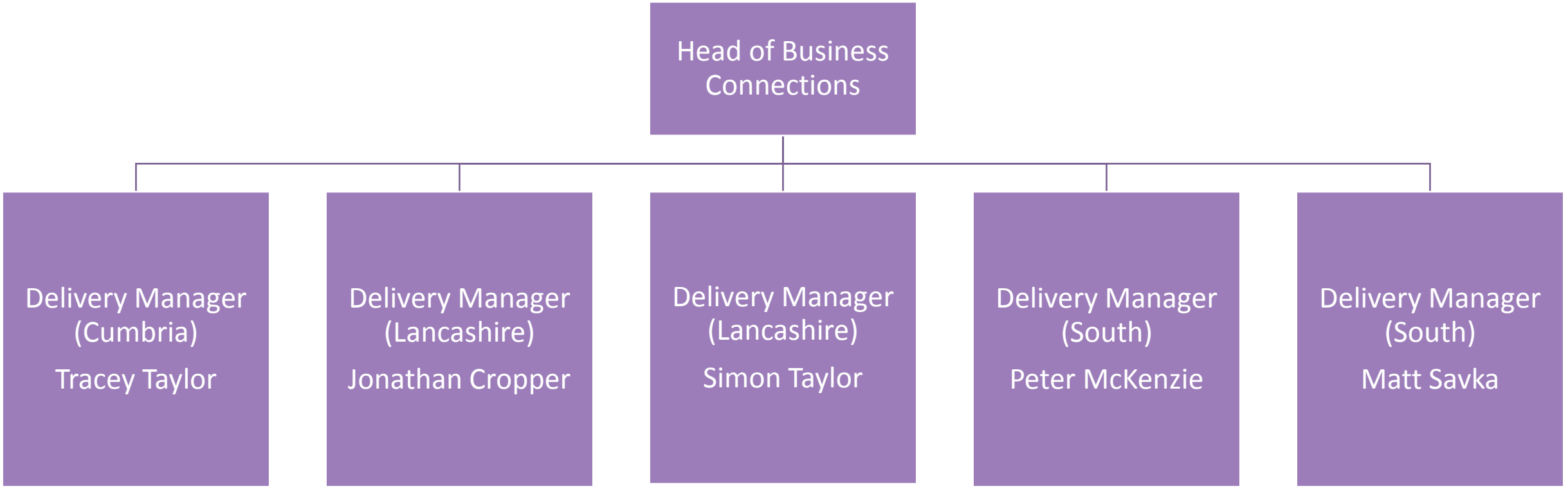
Rationale for change

- Listening to feedback from its customers and changes in its markets, Energy Solutions Business Connections leadership team have recently reviewed its current ways of working and have decided to make some changes.

- These changes includes a restructuring of the leadership team, and a realigning of responsibilities that will provide
  - Clearer ownership of each customer with a more seamless customer experience
  - A single point of escalation for customers and stakeholders
  - Efficiencies through the streamlining of activities
  - Focussed contractor management/contract ownership
  - Clarity of individual roles and key responsibilities

- One of our aims is to make it clearer for all our stakeholders of who they need to contact for support or advice with the services we offer.
  - For example; for any site related Business Connections activities in North Operations region Tracey Taylor and her team are now the first port of call.

Current (as is) leadership structure



Each delivery manager is directly responsible for both Design & Construction within a geographic region

Proposal for future (to be) leadership structure

Head of Business Connections

Delivery Manager North (S Taylor)	Delivery Manager North (T Taylor)	Delivery Manager South (M Savka)	Delivery Manager South (P McKenzie)	Delivery Manager (J Cropper)
Designers & Clerical	Constructors, CAD Technician & Clerical	Designers & Clerical	Constructors, CAD Technician &Clerical	Designers (Assurance) Clerical
Responsible for Design & Sales	Responsible for Construction & Delivery	Responsible for Design & Sales	Responsible for Construction & Delivery	Responsible for Contracts, T&Cs, MPANs & CiC

All of us will continue to be flexible and work across all sites.

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Reviewing our communications processes with ICPs / IDNOs 2019-20

Jonathan Cropper

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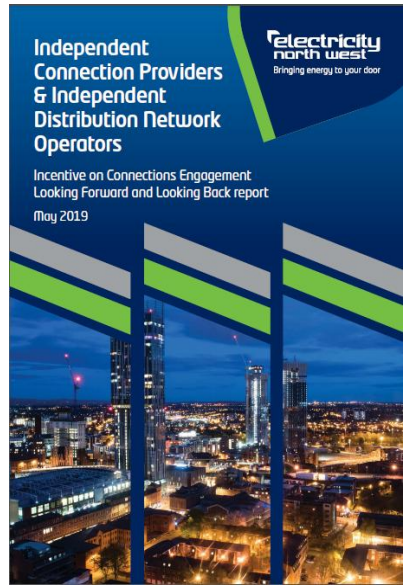
Background

- At our final ICP ICE workshop last year you told us that you would like more clarity and consistency during the delivery phase (post acceptance phase) of your projects

- Listening to your feedback we incorporated an action into our ICP / IDNO plan for this year, 2019-20

“We will review and engage with our stakeholders, our communications processes with ICPs / IDNOs”

“We will engage with stakeholder and look to see if we can streamline the interfaces.”



Your comments

It would be great to get confirmation sooner which designer will be carrying out design assurance

It would be helpful if we knew who our site contact was earlier in the process

Sometimes we receive contact information at different stages of the process for different geographic area's

Would it be possible to have a clearer route of management escalation for any unresolved complaints

Please can we have one site point of contact for our projects

Our proposed changes

We will confirm your Design Approval Engineer when you accept your POC

We will provide the name of a Site Construction lead when you submit your design for approval

We will provide a single point of managerial escalation for any unresolved complaint - Jonathan Cropper

We will endeavour to keep your Site Construction lead the same for the duration of your project & we promise to include you in the handover process should there be a change

We will continue to work with your feedback and find ways to help improve the consistency our processes across our entire region

When will these changes be implemented?

We will confirm your Design Approval Engineer when you accept your POC

November 2019

We will provide the name of a Site Construction lead when you submit your approval

November 2019

We will provide a single point of managerial escalation for any unresolved complaints Jonathan Cropper

From Today

We will endeavour to keep your Site Construction lead the same for the duration of your project & we promise to include you in the handover process should there be

November 2019

We will continue to work with your feedback and find ways to help improve the consistency our processes across our entire region

From Today

Next Steps

- If you like what you see and/or if you can suggest further improvements in these areas then please send your comments to us at ice@enwl.co.uk

- For all escalations or enquiries give the Business Connections Contracts Manager (Jonathan Cropper) a call on 07471 142 170 or email at jonathan.cropper@enwl.co.uk

- Or give our Head of Business Connections (Chris Fox) a call on 07917 083 273

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Adoption and Connection Agreements

Guidance Document

Jonathan Cropper

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Introduction

- A framework-style adoption agreement has been introduced by Electricity North West, in response to stakeholder requests, and working collaboratively with stakeholders. This has been briefed to the ICP forum as being live from 1 April 2019.

- The framework adoption agreement between Electricity North West and the Independent Connection Provider is signed only once, in advance of any work to be started by an ICP.

- For each new site the ICP works on there is a site specific schedule to be signed by Electricity North West, the ICP and the Customer. This site specific schedule is appended to the adoption agreement on completion of the works.

- The ICP is to populate the site specific schedule & annexes with requisite information, following design approval. Where the design is self approved, then the site specific schedules to be sent into Electricity North West prior to works commencement.

The Adoption Agreement

- Published on the Electricity North West website;
  - https://www.enwl.co.uk/get-connected/our-services/agreements/

- It is a protected document, only allowing certain areas to be amended. Name and address of ICP, and addresses for correspondence for example, are to be updated for each new ICP.
  - Any negotiation of special terms requested by an ICP to the standard adoption agreement needs to be referred to the Commercial and Legal departments, and may incur a cost.

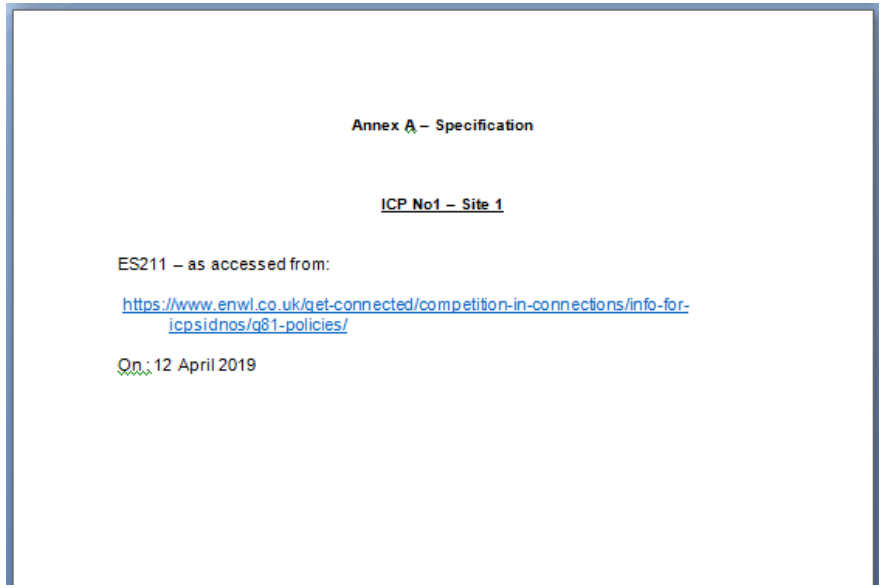
- Schedule 1 allows for standard technical scenarios to be recorded, but is not essential.

- Schedule 2 contains ten annexes, which allow for all the relevant details of each site to be populated by the ICP, and checked by Electricity North West for completeness. Proper completion of schedule 2 is essential to ensure assets can be properly adopted.
  - The next slides will outline the requirements for each annex

Annex A - Specification

- Annex A – Specification
  - This is a mandatory annex and should include reference to the relevant Electricity North West specification document.
  - A full reproduction of the relevant document, or a reference to the relevant document along with an accessed date will suffice for this.

- Examples;



Annex A – Specification

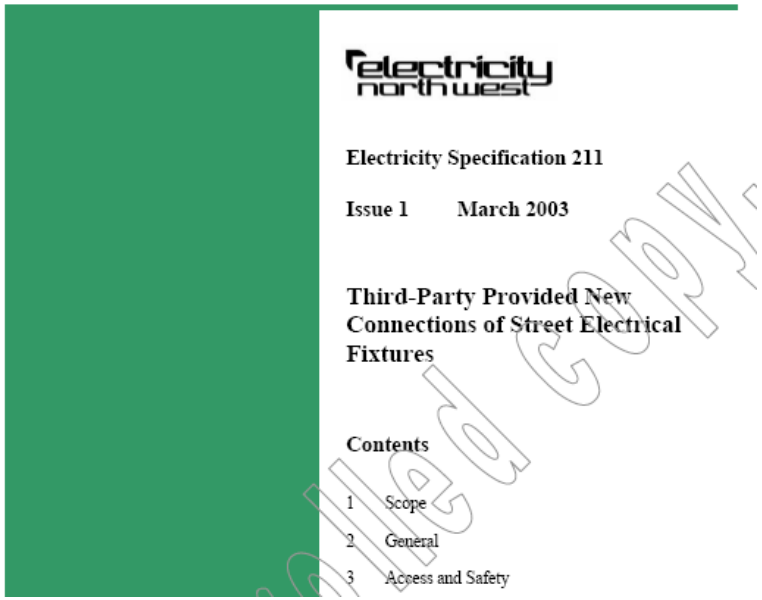
ICP No1 – Site 1

ES211 – as accessed from:

https://www.enwl.co.uk/get-connected/competition-in-connections/info-for-icpsidnos/q81-policies/

On : 12 April 2019

or



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Electricity Specification 211

Issue 1 March 2003

Third-Party Provided New Connections of Street Electrical Fixtures

Contents

1 Scope

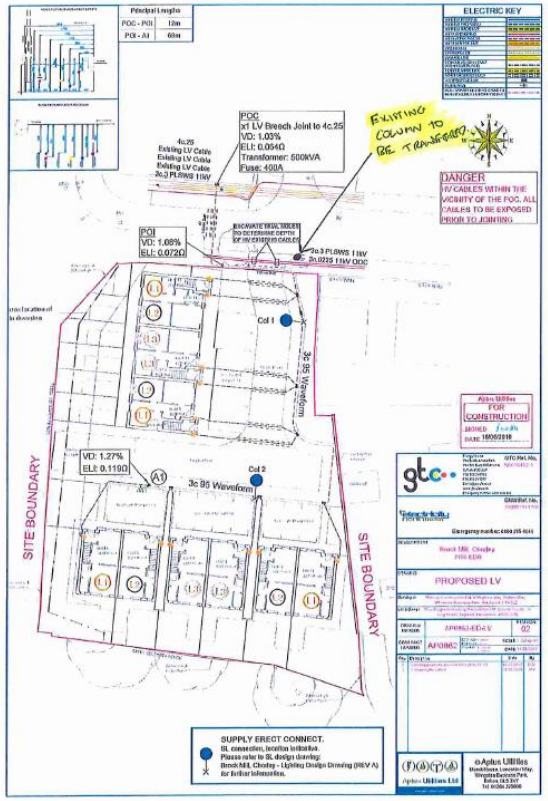
2 General

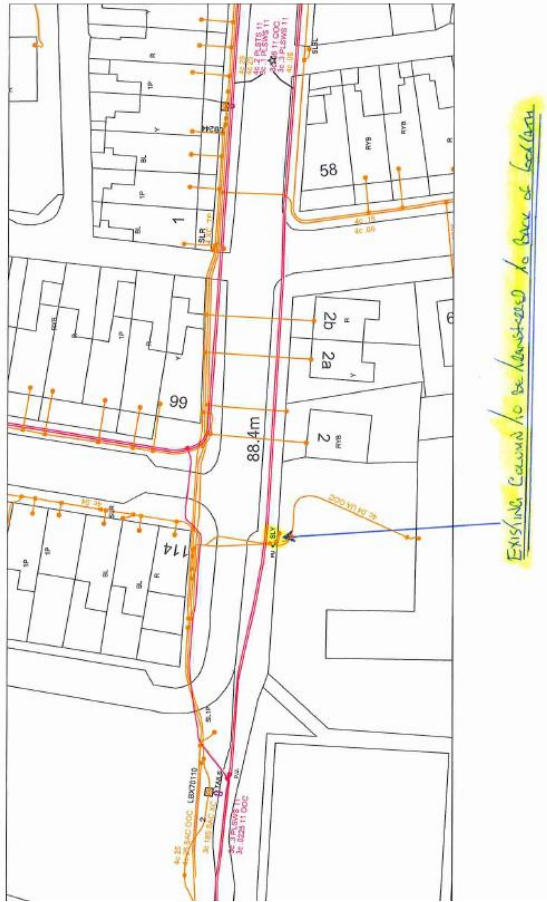
3 Access and Safety

Annex B – Design and Drawings

- Annex B – Design and Drawings
  - This mandatory annex should provide the ICP design / construction drawings showing all assets to be adopted.

- Example;

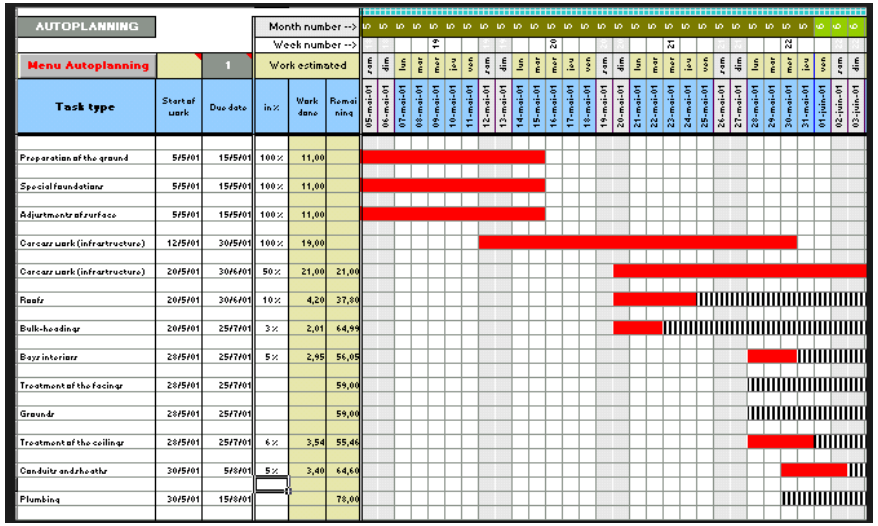




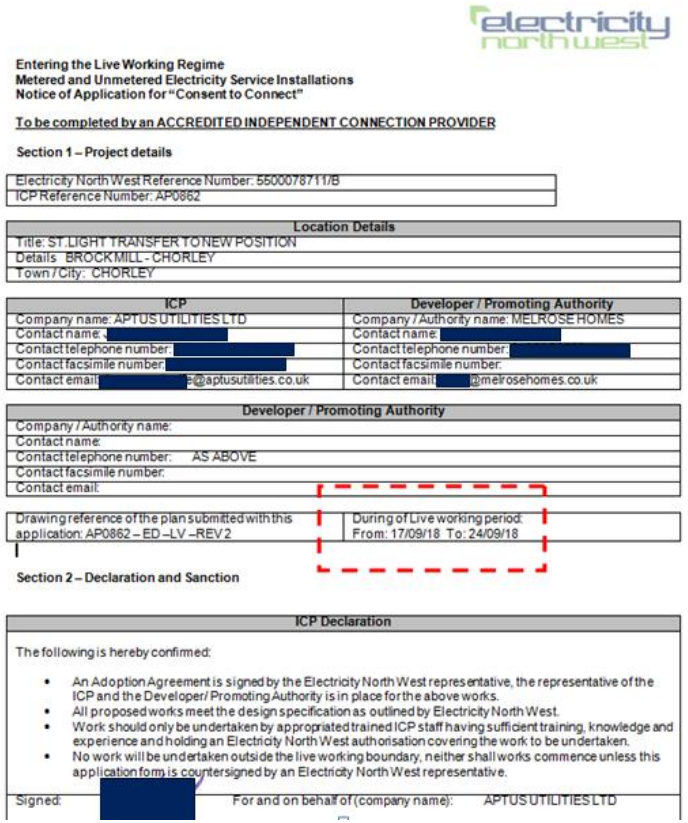
Annex C - Programme

- Annex C – Programme
  - This mandatory annex should provide details of the programmed dates for the ICP works, either by way of Gantt-style programme, or provision of completed live working document.

- Examples;



or



Entering the Live Working Regime
Metered and Unmetered Electricity Service Installations
Notice of Application for "Consent to Connect"

To be completed by an ACCREDITED INDEPENDENT CONNECTION PROVIDER

Section 1 – Project details

Electricity North West Reference Number: 5500078711/B
ICP Reference Number: AP0862

Location Details

Title: ST LIGHT TRANSFER TO NEW POSITION
Details: BROCK MILL - CHORLEY
Town / City: CHORLEY

ICP	Developer / Promoting Authority
Company name: APTUS UTILITIES LTD	Company / Authority name: MELROSE HOMES
Contact name: [redacted]	Contact name: [redacted]
Contact telephone number: [redacted]	Contact telephone number: [redacted]
Contact facsimile number: [redacted]	Contact facsimile number:
Contact email: [redacted]@aptusutilities.co.uk	Contact email: [redacted]@melrosehomes.co.uk

Developer / Promoting Authority

Company / Authority name:
Contact name:
Contact telephone number: AS ABOVE
Contact facsimile number:
Contact email:

Drawing reference of the plan submitted with this application: AP0862 – ED –LV –REV 2

During of Live working period:
From: 17/09/18 To: 24/09/18

Section 2 – Declaration and Sanction

ICP Declaration

The following is hereby confirmed:

- An Adoption Agreement is signed by the Electricity North West representative, the representative of the ICP and the Developer/ Promoting Authority is in place for the above works.
- All proposed works meet the design specification as outlined by Electricity North West.
- Work should only be undertaken by appropriated trained ICP staff having sufficient training, knowledge and experience and holding an Electricity North West authorisation covering the work to be undertaken.
- No work will be undertaken outside the live working boundary, neither shall works commence unless this application form is countersigned by an Electricity North West representative.

Signed: [redacted] For and on behalf of (company name): APTUS UTILITIES LTD

Annexes D to F

- Annex D – Adoption Plan
  - This should show how assets are to be adopted. If Annexes B & C are sufficiently detailed, this annex could refer to those documents.
- Annex E – Electricity North West Works
  - This annex should detail any and all work to be carried out by Electricity North West. Annex G (Costs) should align with the works detailed in this annex.
- Annex F – ICP Works
  - This annex should detail any and all work to be carried out by the ICP, again – if annexes B & C are sufficiently detailed, then this annex could refer to those documents.

Annexes G to J

- Annex G – Costs
  - This mandatory annex should detail all the costs to be paid by the ICP in line with the Connections Common Charging Methodology, as published on the Electricity North West website and updated from time to time.
  - Costs should be in compliance with the current published CCCM.
- Annex H – Consents
  - This mandatory annex should provide detail and fully completed documentation relating to land rights, wayleaves and any other consents required for the effective adoption of assets following completion of the works.
- Annex I – Commissioning Requirements
  - This annex should detail any and all commissioning requirements as may be specified in Electricity North West policy and procedures.
  - This schedule is the place to record P283 commissioning certificates.
- Annex J – Completion Certificate
  - This annex should be completed following completion, but should include any such certificates that may be required.

Flexible Services

Could you reduce demand or increase generation when instructed in return for payment?

Lois Clark

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Flexible Services

As the region's distribution network operator, it's our responsibility to plan for the future and seek out smarter, more flexible solutions to meet future demand for electricity. We are utilising a number of innovative techniques to ensure we can continue to deliver an affordable, reliable and sustainable electricity supply for all our customers.

Flexible services is one such technique

Distributed Energy Resources (DERs) are companies or individual customers capable of adjusting how much they consume or generate electricity. These adjustments can support the local distribution network due to high electricity demand or when the network is operating abnormally, and DERs receive payment from Electricity North West in return. These DERs can be generators, consumers, and electricity storage connected to our networks that can increase exports (generate more) or reduce imports (consume less) when instructed and receive payment in return.

We are looking to use this flexibility to support how we operate our local networks, as an alternative to traditional approaches. The aim is to reduce the cost for electricity distribution networks in customer energy bills while ensuring that our network remains resilient, reliable and meets our customers' needs.

Types of Flexible Service

RESTORE - Provide an immediate response following an unplanned network event

SUSTAIN - Flex your supply up or down at peak times to help manage network constraints

CONTINUOUS - Fulfil a continuous capacity requirement

Service Characteristics	RESTORE	SUSTAIN	CONTINUOUS
When to Act	Post fault	Pre fault	Pre fault
Trigger	Network abnormality	Asset loading	Constant
Certainty of Utilisation	Uncertain	Uncertain	Certain
Risk to network assets	High	Med	Low
Frequency of use	Low	Med	High

Understanding our Requirements

The DER to be **energised** and ready to deliver services by this date.

The **location** of our requirement and where the DER would need to be situated.

Provides more detail on when we are likely to require a DER to respond.

Network Location	Type of Response	Voltage of connection	Maximum Flexible Service req. (MVA)	Availability Window				Estimated Availability Rate	Estimated Utilisation Rate
				Start date	Months	Days	Times		
Location 1	RESTORE	LV or HV	0.2	Sep-20	All Months	All Week	All day	Up to 8760 hrs pa	Up to 40hrs pa
Location 2	SUSTAIN	LV or HV	1.8	Oct-20	Oct-Mar	Mon-Fri	16:00 – 19:00	Up to 5202 hrs pa	Up to 40hrs pa
Location 3	CONTINUOUS	LV or HV	5.0	Mar-20	All year	All Week	All day	Up to 8760 hrs pa	Up to 8760hrs pa

The **type** of response that we require.

Estimated total amount of time that we may require the DER to **respond** for.

The **voltage** that we require the DER to be connected to.

The peak amount of **capacity** required. This may change depending on the month/day/time. Detailed load profiles are included in the RfP documentation.

The amount of time that we require the DER to **be available** for as we may require a response.

Previous requirements

Network location	Type of response	Voltage of connection	Total flexible service requirement 2018/19 (MW)	Availability window					Utilisation rate
				Months	Earliest start date	Latest end date	Times	Days	
Alston	Restore	LV or HV	0.5	Nov - Mar	Nov-18	Mar-19	06:30 to 21:30	All week	Up to 40 hrs pa
Blackfriars	Restore	LV or HV	0.5	Jan - Feb	Jan-19	Feb-19	16:30 to 21:30	Weekdays	Up to 40 hrs pa
Coniston	Restore	LV or HV	1.0	Nov - Mar	Nov-18	Mar-19	All day	All week	Up to 40 hrs pa
East Manchester	Sustain	LV or HV	3.9	Nov- Mar	Nov-20	Mar-21	06:00-22:00	All week	Up to 450 hrs pa
Easton	Restore	LV or HV	2.0	Apr - Mar	Nov-18	Mar-19	All day	All week	Up to 40 hrs pa
Stuart Street	Sustain	HV or 33kV	9.5	Nov - Feb	Nov-18	Mar-19	06:30 to 21:30	Weekdays	Up to 40 hrs pa
South Manchester Enterprise Zone	Continuous	HV or 33kV	7.5	All	Nov-20	Mar-23	All day	All week	Up to 8760 hrs pa

Flexible requirements

*Areas in blue are locations in which we are **currently** seeking flexible services*

*Areas in grey are sites that are likely to require flexible services in the **future***

We undertake network studies to determine where flexibility may be procured to help manage constraints on our network. This map shows the sites that we have identified as requiring flexibility in the medium to short term.

The full details for our current requirements at Bolton by Bowland, Coniston and Easton will be published in October.

This will include details on how to register your interest, the timescales involved, and the technical criteria for participation.

The future requirements are those sites that we believe may require flexibility within the next 5 years. However, please note that these are **not guaranteed** and are subject to future capacity reviews.

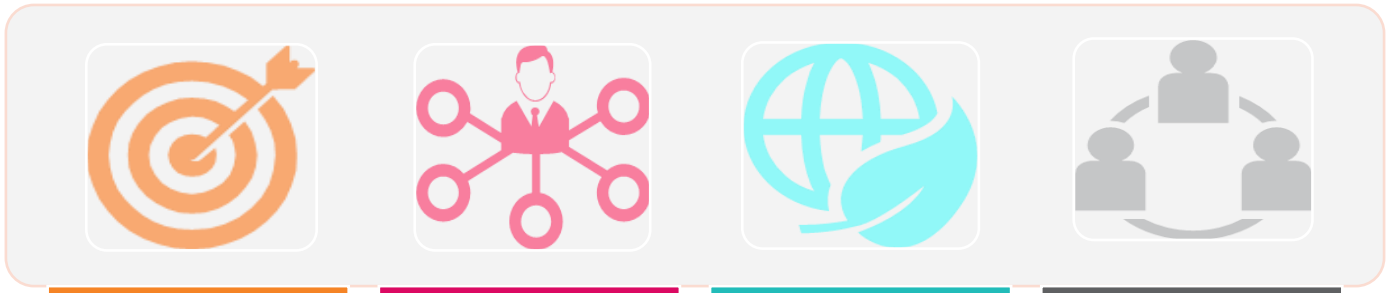
To receive notifications of new flexible service requirements, or for any further information about these requirements please visit www.enwl.co.uk/flexible-services.

Upcoming workshop

We will be holding a flexibility workshop in Lancashire at end of November.

This is our first dedicated flexibility workshop, however going forward we will hold these events bi-annually in the autumn and spring months in line with our review periods for identifying network requirements.

This event will cover:



- Our current requirements and further information on how to submit a proposal
- Our approach to procuring flexibility, including the pre qualification and scoring criteria
- Our vision for the future. How we are promoting the use of low carbon technologies
- Our work with the ENA on the Open Networks project and good practice identified across the industry

If you would be interested in attending then please register for the event at www.enwl.co.uk/events

Feedback

We are now regularly publishing our requirements for flexible services via Requests for Proposals (RfPs), and are looking to make this process as easy as possible to engage with.

There are several helpful documents on the website that aim to answer all your immediate queries:

- Glossary of terms
- Understanding flexibility
- FAQ’s
- Terms & Conditions
- Feedback form
- Understanding our requirements
- Decision making criteria

All feedback is welcome, you can either email us directly at flexible.contracts@enwl.co.uk or complete the new feedback form on the website.

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The Network Management System Update and How This Impacts You

Alan Astall

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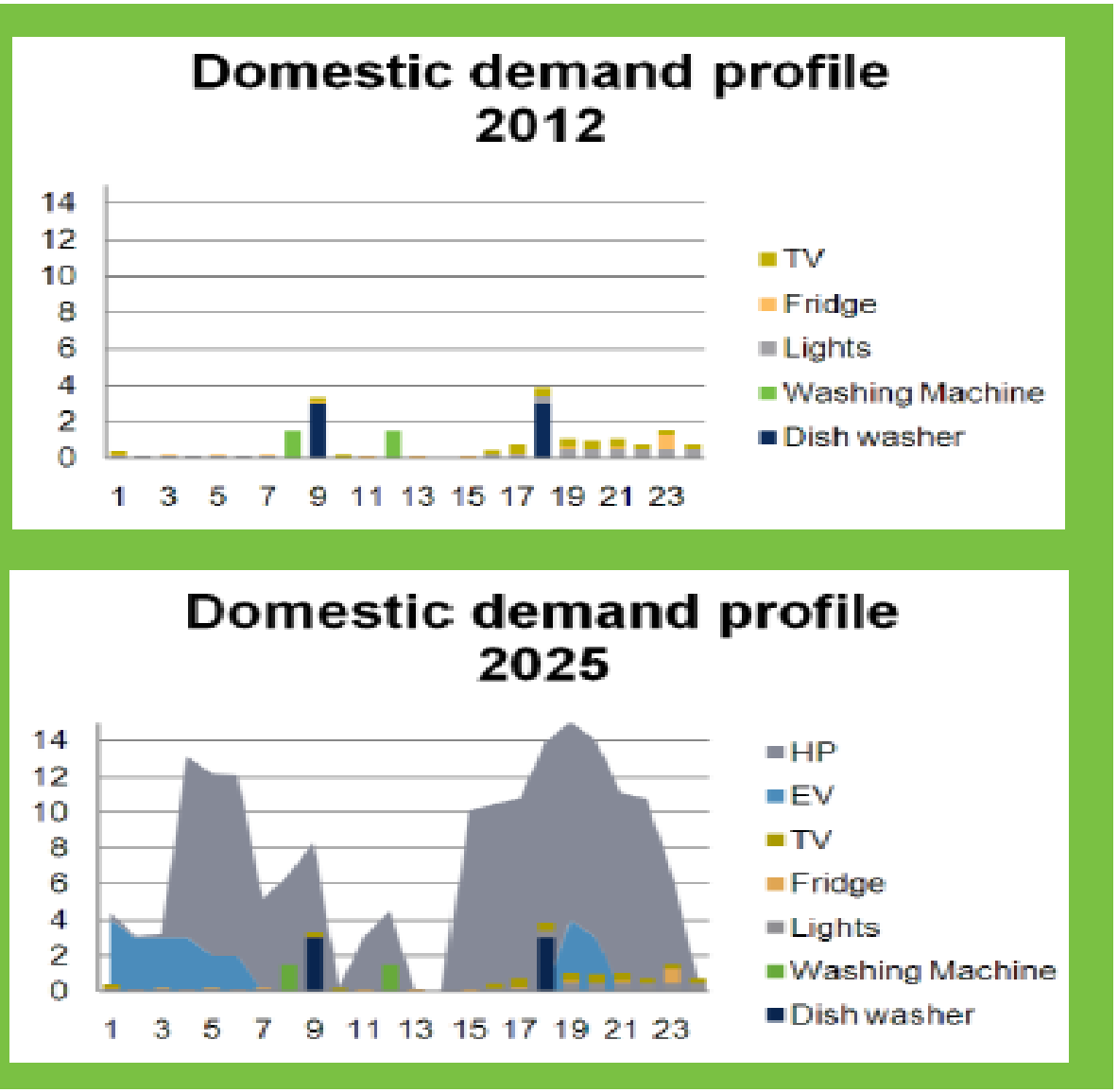
Contents

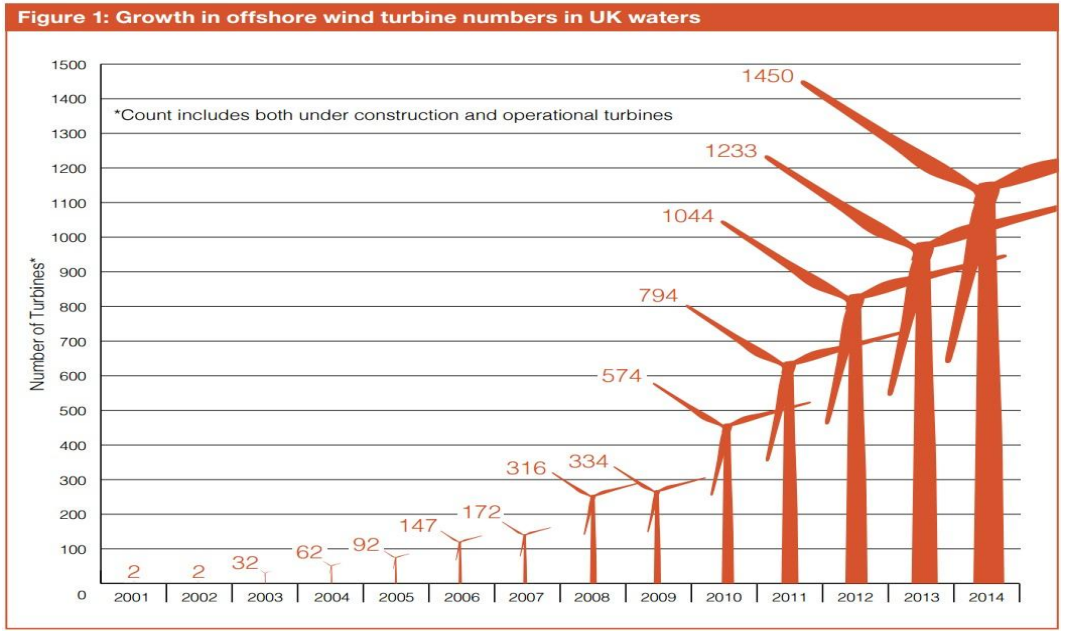
- Overview
- What is changing in the industry
- CRMS vs. NMS
- Key Changes
- What does this mean?
- Next Steps
- Questions

Overview

- To provide further information on how our new Network Management System (NMS) will interact with connection projects.
- Introduction of NMS will require minor changes to ENWL processes for connection to its network.
  - We will highlight any impact to connection processes.
- Please provide feedback and we will issue a further update / communication enabling all ICPs to adhere to the new process.

What is changing in the industry?





- In less than ten years time the level of domestic consumption is predicted to soar

- Traditional demand profiles will change significantly

CRMS vs. NMS

CRMS

Our Control Room Management System, was purpose built to manage a more static distribution network.

Technology has improved

Nearing obsolescence, ageing, reaching its capability limits.

Higher level of IT security required due to the changing nature of interactivity in distribution networks.

In a world of more interactive networks, better load and connectivity information is required. Capable of interacting with new data sources, e.g. smart meters.

NMS

Our new Network Management System, is purpose built to deliver for changing network requirements

Enables us to continually innovate

Fully interactive electrical model giving real time control and feedback

Integrates low carbon technology, including 2.5m smart meters, to enable a smart network.

Will deliver improvements in customer service, by reducing customer interruptions & minutes lost

NMS Go Live Plan

Phase 1 – 11/01/20 – 18/01/20

Go Live NMS Outage Management application

All of the LV Network will be managed via NMS

Phase 2 – Wave 1 Cut Over – 18/01/20 – 09/02/20

Transmission, Manchester & Ashton network regions phased cut over onto NMS System

Phase 3 – Wave 2 Cut Over – 25/01/20 – 16/02/20

Mid Lancs, South Lancs, South Lakes, North Lakes regions phased cut over onto NMS System

During Waves 2 & 3 cutover there will be limitations on HV planned outages

Key changes

Planning stage pre job

Day of works

Pre-laids

- As-planned work
- Required for the following voltages.
  - HV
  - LV Mains
- Defines what the network will look like after completion.
- Should include geographical drawing.
- This is in addition to the as-laids process.

Outage Planning Tool

- All HV and LV planned work must be scheduled via Outage Planning Tool (POUT)
- This generates a work request for NMS and provides information real time to allow the diagram to be updated.
- Additional information will be provided with who to contact and when in the near future.

Communication

- NMS requires a real time update from site at the time of the work commencing.
- This will place the Pre-laid onto the electrical network model and allow works to proceed.
- This is imperative for any mains to mains connections onto ENWL network.
- For LV Mains connections you will be provided with a dedicated telephone number to contact.

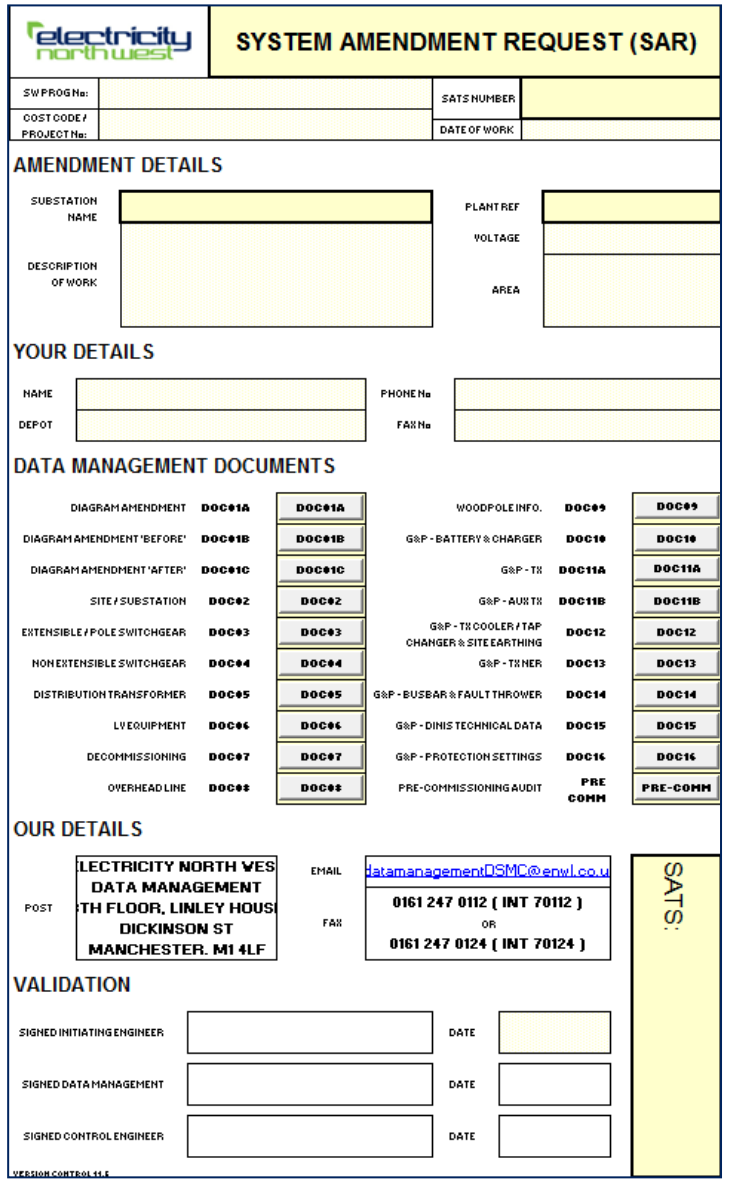
What does this mean?

- What is affected
  - HV – all schemes
  - LV – Any jointing to connect extension assets on to a mains cable
- What isn’t affected
  - Unmetered – this will just follow the normal as-laid processes
  - Service connections – these will need to be shown on the pre-laid that is submitted with the mains extension
- Planning stage
  - Connection process is remaining as per current process
  - Pre-laids required
    - Can be design drawing
    - Details of any staged delivery of site development
    - Needs to be geographical
    - Needs to show all electrical connectivity (even on future delivery stages)

What does this mean?

- Information required prior to actual jointing activity
  - Minimum 7 days prior to jointing activity
  - System Amendment Record (SAR) pack to be submitted
    - Will consist of a few sections
      - Front Page
      - Network before connection
      - Network after connection

- Front Page



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SYSTEM AMENDMENT REQUEST (SAR)

SW PROG No: | SATS NUMBER
COST CODE / PROJECT No: | DATE OF WORK

AMENDMENT DETAILS

SUBSTATION NAME | PLANT REF
DESCRIPTION OF WORK | VOLTAGE | AREA

YOUR DETAILS

NAME | PHONE No
DEPOT | FAX No

DATA MANAGEMENT DOCUMENTS

DIAGRAM AMENDMENT	DOC01A	DOC01A	WOODPOLE INFO.	DOC09	DOC09
DIAGRAM AMENDMENT 'BEFORE'	DOC01B	DOC01B	G&P - BATTERY & CHARGER	DOC10	DOC10
DIAGRAM AMENDMENT 'AFTER'	DOC01C	DOC01C	G&P - TX	DOC11A	DOC11A
SITE / SUBSTATION	DOC02	DOC02	G&P - AUX TX	DOC11B	DOC11B
EXTENSIBLE / POLE SWITCHGEAR	DOC03	DOC03	G&P - TX COOLER / TAP CHANGER & SITE EARTHING	DOC12	DOC12
NON EXTENSIBLE SWITCHGEAR	DOC04	DOC04	G&P - TX NER	DOC13	DOC13
DISTRIBUTION TRANSFORMER	DOC05	DOC05	G&P - BUSBAR & FAULT THROWER	DOC14	DOC14
LV EQUIPMENT	DOC06	DOC06	G&P - DINIS TECHNICAL DATA	DOC15	DOC15
DECOMMISSIONING	DOC07	DOC07	G&P - PROTECTION SETTINGS	DOC16	DOC16
OVERHEAD LINE	DOC08	DOC08	PRE-COMMISSIONING AUDIT	PRE COMM	PRE-COMM

OUR DETAILS

POST: LECTRICITY NORTH WES
DATA MANAGEMENT
TH FLOOR, LINLEY HOUS
DICKINSON ST
MANCHESTER. M1 4LF

EMAIL: datamanagementDSMC@enwl.co.u
FAX: 0161 247 0112 (INT 70112)
OR
0161 247 0124 (INT 70124)

SATS:

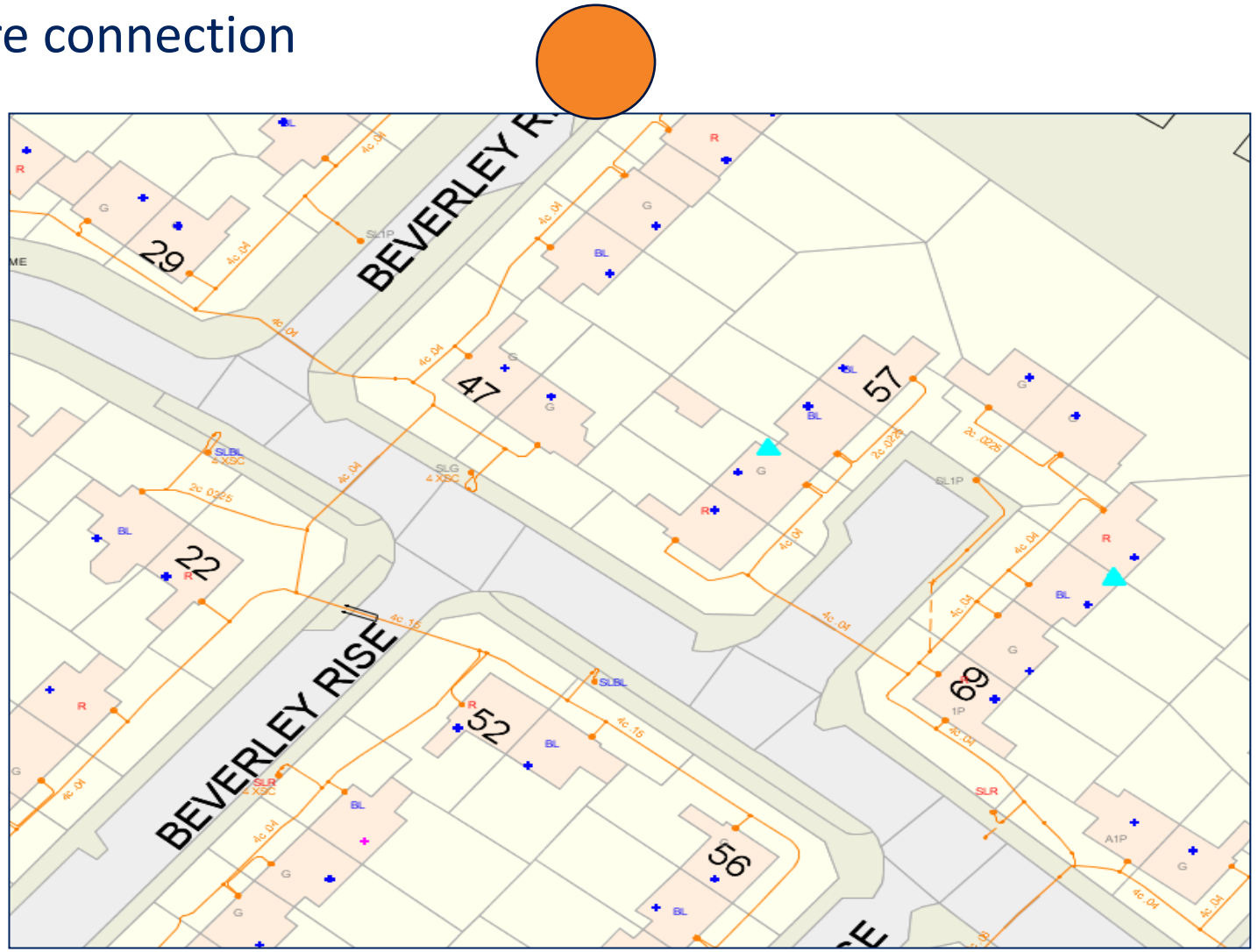
VALIDATION

SIGNED INITIATING ENGINEER | DATE
SIGNED DATA MANAGEMENT | DATE
SIGNED CONTROL ENGINEER | DATE

VERSION CONTROL 11.5

What does this mean?

- Network before connection



What does this mean?

- Network after connection

What does this mean?

- Day of network connection
  - HV
    - As existing process
  - LV
    - Call Hub Tech before jointing commences
      - Hub Tech will load network patch to show new network connectivity – left in a “dead” state
    - Call Hub Tech when jointing finished
      - Hub Tech will make new network extension assets “live” on system

Next Steps

- Next steps
  - SAR pack to be produced and issued to ICPs
  - Undertake trial with two/three ICPs to gain feedback – Any volunteers??
  - Review feedback

- Implementation
  - ICP trial approx March 2020
  - Full implementation approx June 2020

Activity

- To make the trial as informative and successful as possible, please discuss your thoughts on what questions the trial should answer.

- Some example topics may include.....

On site activity

Pre-laids

Communications

Documentation

Connection Offer Expenses - Update

Brian Hoy

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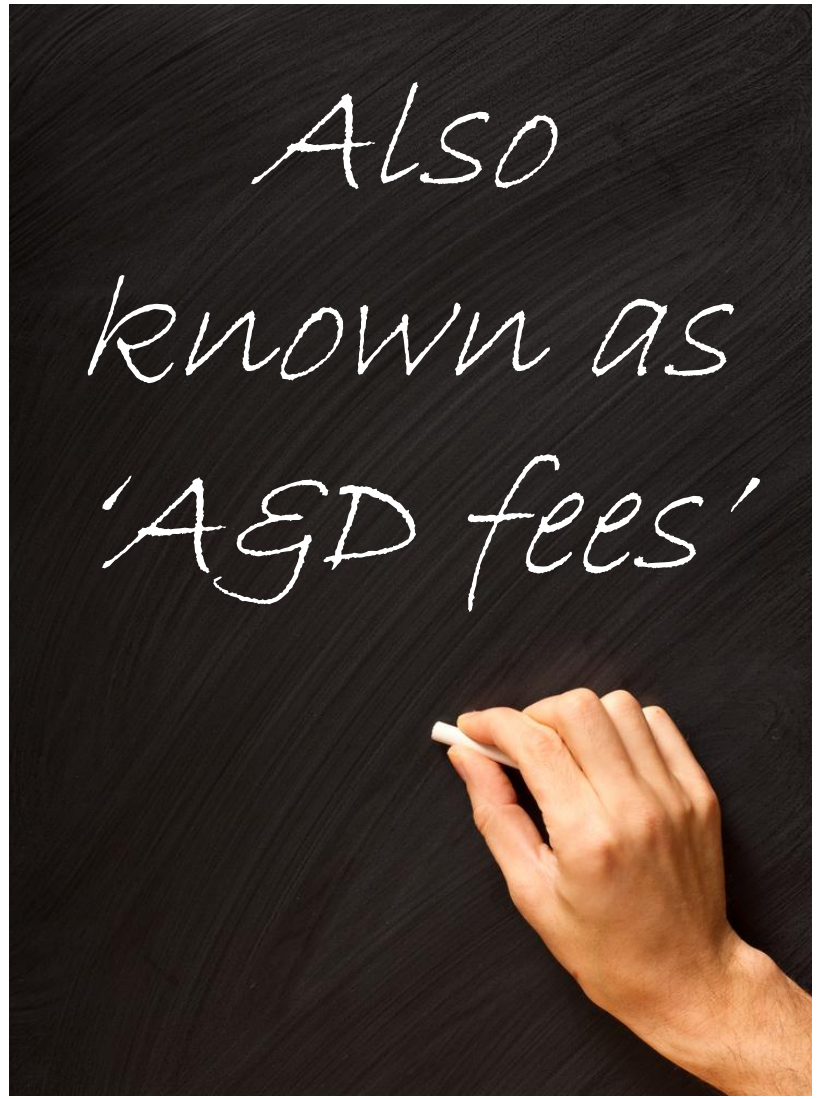
Connection Offer Expenses

BEIS introduced new regulations from April 2018

These allow DNOs to charge customers for their connection offer whether it is accepted or not

BEIS intention is to allow a fairer allocation of costs to customers



What do we propose to charge for?

What we won't be charging for
Budget Estimates
Minor connections (1-4)
Cancellations within cooling off period
Offers for diversions

What we will be charging for
EHV offers (demand and gen) from May 18
HV generation offers over 1MVA from Jan 2019
LV and other HV offers (demand and generation) possibly in future but no immediate plans to
Requotes including interactivity requotes
Cancellations (after cooling off period)
Gen+ initial assessments

These charges will be due whether the connection offer is accepted or not

The basic process

Customer Application	Connection Offer issued	Connection Offer validity period	Acceptance
Email informing customer is liable for payment for quote but with 10 working day cooling off period	Connection offer issued together with invoice for £1,000 with 30 day payment terms	Quote validity period normally 180 days but will end after 30 days if invoice not paid	Customer pays balance of Connection Offer Expenses if they accept as part of Acceptance Fee

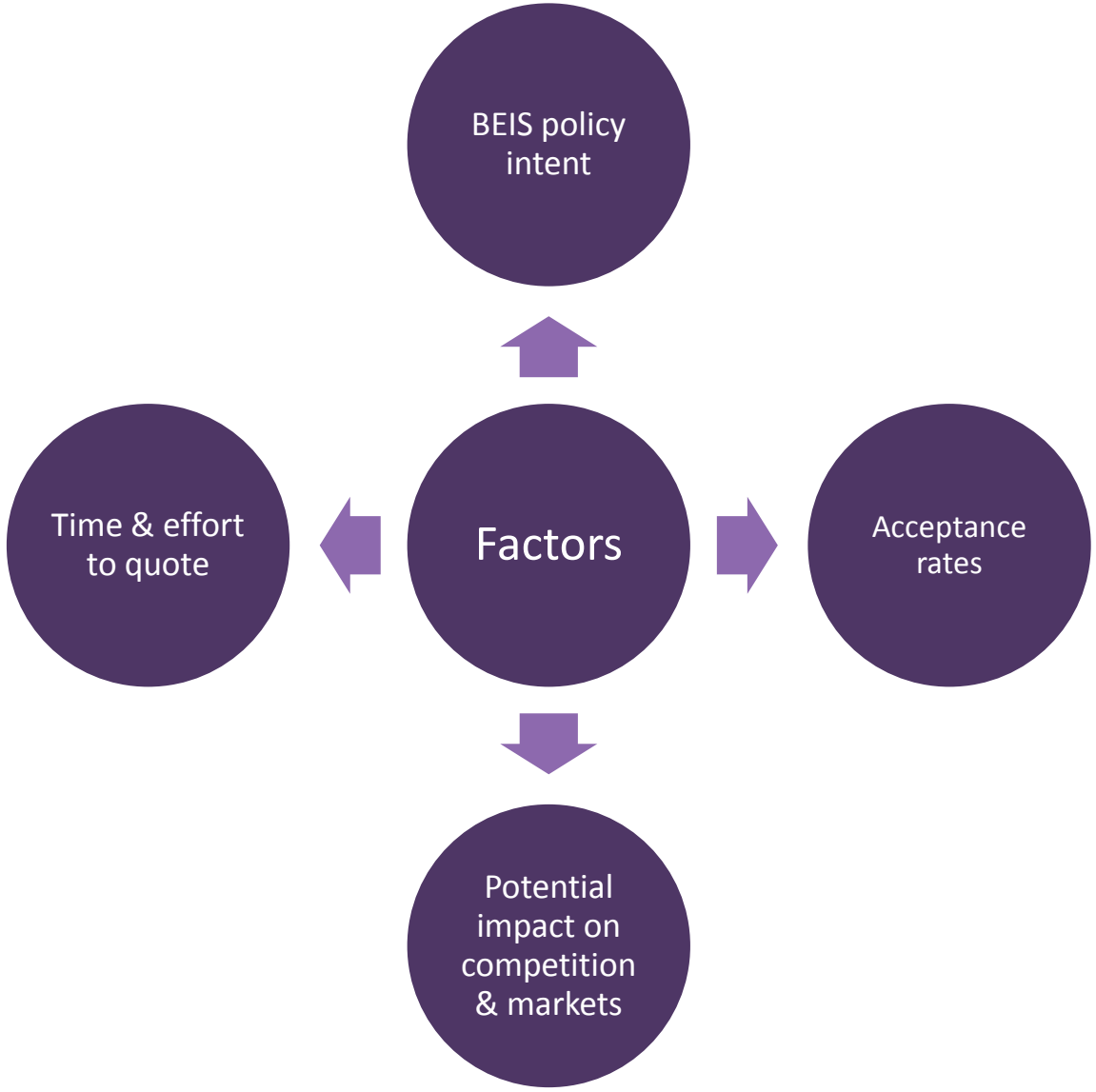
Summary of available options

Four different options available to you for EHV offers and HV generation over 1MVA

Budget Estimate	Gen +	Full Works Offer	POC Only Offer
• No charge • Can't accept • No queue position	• Initial charge of £500 payable in advance • Further charge of £1,000 for full offer • Queue position retained	• Initial charge of £1,000 for Dual Offer •Balance based on type of acceptance: • £20,200 for EHV full works • £15,800 for EHV POC only • £5,870 for HV gen full works • £4,500 for HV gen POC only	• Initial charge of £1,000 for connection Offer • Balance based on type of acceptance: • £15,800 for EHV POC only • £4,500 for HV gen POC only

EHV applicable from 4 May 2018
HV Generation greater 1MVA applicable from 1 January 2019

Factors that have influenced the different DNO approaches



- There are a number of different factors that DNOs have taken into account in considering their approach to A&D fees
- Each has evaluated these differently in developing their initial approaches
- This has resulted in different approaches applied to different market segments:
  - No charge
  - Some charge
  - Full charge

Current status of DNO A&D charges

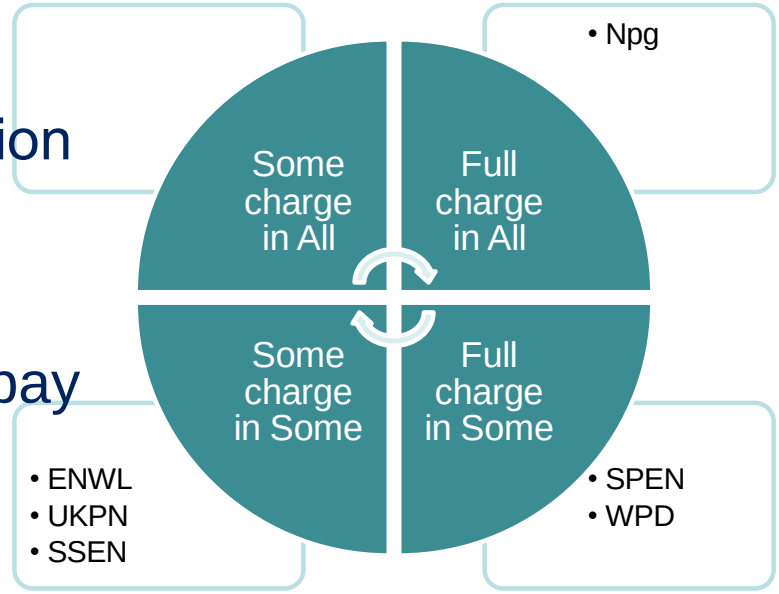
DEMAND	ENWL	NPg	SPEN	SSEN	UKPN	WPD
Demand LV work	No charge	Full charge	No charge	No charge	No charge	No charge
Demand HV work	No charge	Full charge	No charge	Some charge *	No charge	No charge
Demand EHV work	Some charge	Full charge	Full charge *	Some charge	No charge	Full charge

DG	ENWL	NPg	SPEN	SSEN	UKPN	WPD
DG LV work	No charge	Full charge	No charge	No charge	No charge	No charge
DG HV work	Some charge *	Full charge	Full charge	Some charge	Some charge	No charge
DG EHV work	Some charge	Full charge	Full charge	Some charge	Some charge	Full charge

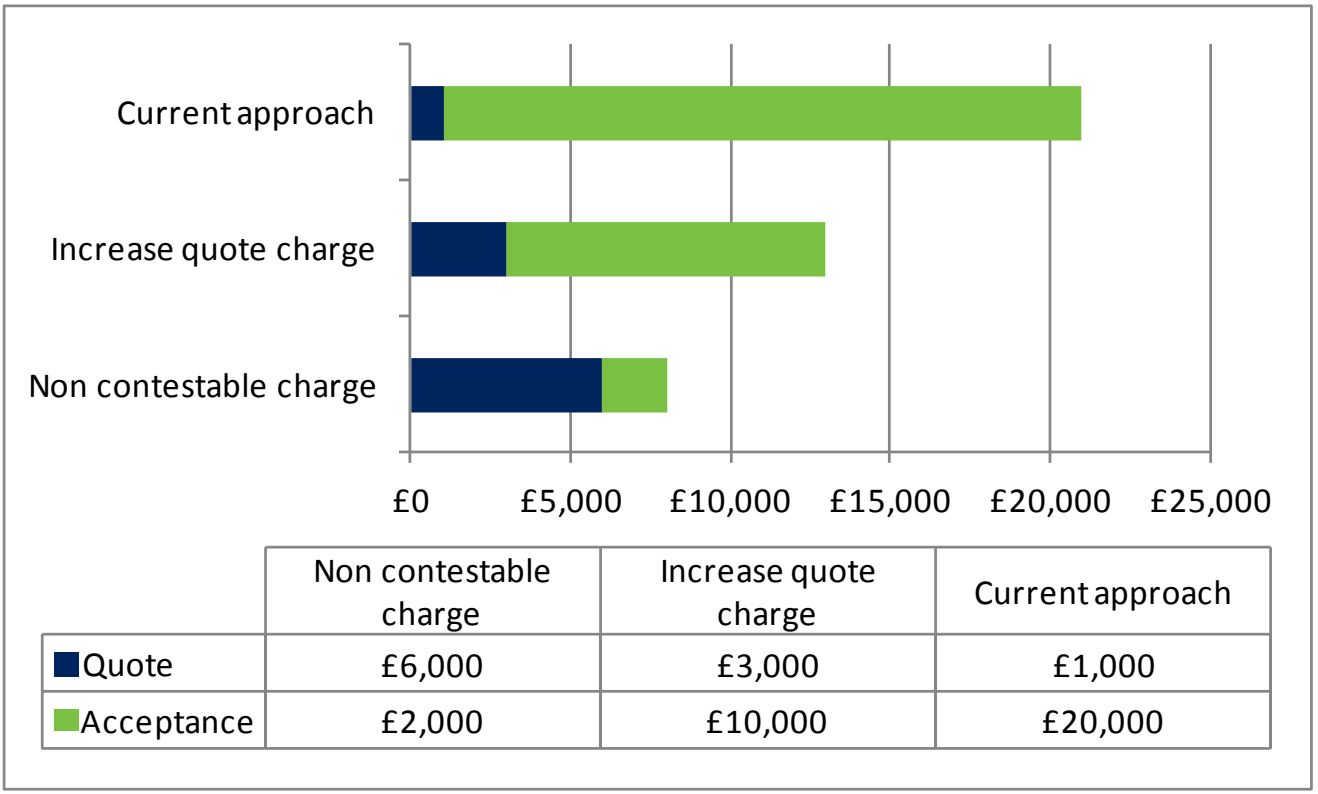
* Denotes not all categories charged for

The tables above show where DNOs currently have implemented charges associated with the issue of Connection Offers

- ‘Full charge’ indicates that the estimated cost of the connection offer is charged to all applicants that receive an offer
- ‘Some charge’ indicates that there is a partial charge to all applicants that receive an offer; applicants that accept then pay an additional charge on acceptance
  - Note the proportion recovered varies between DNOs
- ‘No charge’ indicates all the A&D costs are recovered from accepted projects, typically through on-cost recovery



Should we change our approach?



	Non contestable charge	Increase quote charge	Current approach
Quote	£6,000	£3,000	£1,000
Acceptance	£2,000	£10,000	£20,000

- We are seeking to recover our costs and there are different ways we can do this
- Our initial approach was to have a relatively low charge for the quote which results in a large charge for the small number of acceptances
- We could increase the charge for the quote which would reduce the charge on acceptance
- Different approaches have different impacts on different stakeholders but we are interested in whether there is an overall preference in the light of experience
- Graphs show illustrative values

Ofgem’s Access and Forward Looking Charging SCR

Brian Hoy

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What's the review about?

- **Access arrangements** - the nature of users' access to the electricity networks (for example, when users can import/export electricity and how much) and how these rights are allocated:

- **Forward-looking charges** –the type of ongoing electricity network charges which signal to users how their actions can ether increase or decrease network costs in the future

- **Scope:**
  - Review of the definition and choice of transmission and distribution access rights
  - Wide-ranging review of Distribution Use of System (DUoS) network charges
  - Review of distribution connection charging boundary
  - Focussed review of Transmission Network Use of System (TNUoS) charges

- **Likely to result in significant changes for IDNOs and ICPs from April 2023**

Potential Impacts

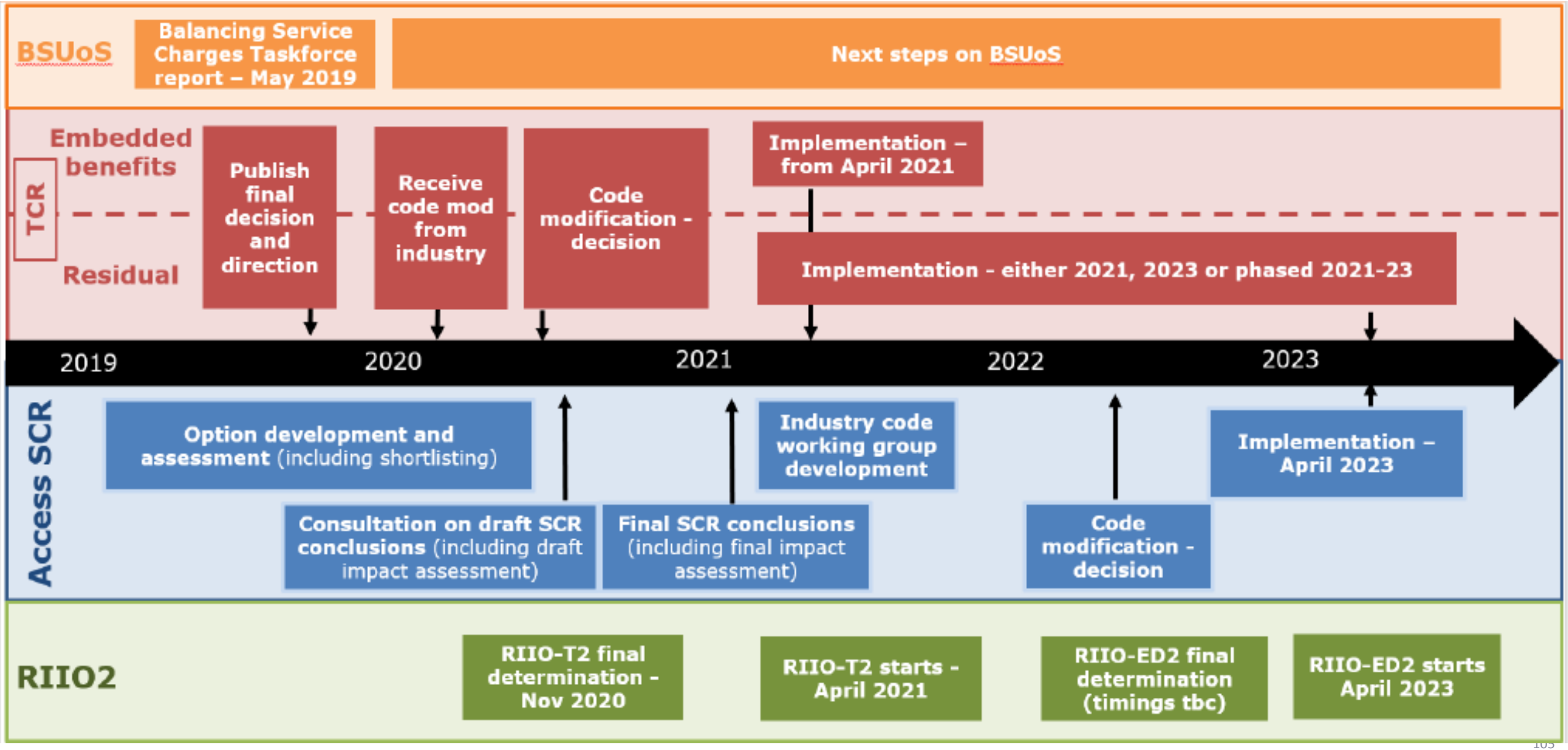
For IDNOs

- Access Arrangements
  - Review of Access Requirements may require IDNO to change their arrangements with customers and offer new access products
  - May need to adopt standard enforcement regimes
- Charging
  - Potentially more complex and locationally granular DUoS tariffs which IDNOs will need to reflect in their tariffs

For ICPs

- Connection Charging
  - Potentially a move to a much shallower connection boundary with more costs treated as general reinforcement

Key Milestones



Ofgem's approach

- Ofgem's focus this year is on developing and assessing a long-list of options. The are sharing their thinking through two working papers:
  - 1st working paper - just been published
    - An initial overview and assessment of options for access rights, better locational DUoS signals and charge design.
    - The links between access, charging and procurement of flexibility.
  - 2nd working paper –to be published at the end of the year
    - Small user treatment
    - Distribution connection charging
    - Focused transmission charging reforms
- A shortlist of options will be assessed in further detail early next year, with consultation on their draft SCR conclusions in summer 2020

- Further information on the reviews can be found at
  - http://www.chargingfutures.com/charging-reforms/access-forward-looking-charges/proposed-changes-and-potential-impacts/
  - https://www.ofgem.gov.uk/electricity/transmission-networks/charging/reform-network-access-and-forward-looking-charges

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Incentive on Connection Engagement (ICE) Update

Hannah Sharratt

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ICE 2019-20 Workplan Progress Update

Action	Progress
We will clearly communicate where **flexible connection options** are available.	Ongoing
We will provide a greater level of information and support surrounding the uptake of **Electric Vehicles (EV)** within the ENWL network through the publication of information and direct stakeholder engagement.	Ongoing 1 of 2 WS
We will continue to publish our **flexible services** on our website and undertake accessible, fair, transparent processes to enable stakeholders to tender for the provision of flexible services. We will consult with our stakeholders to inform our continuous improvement actions.	Ongoing 1 of 2 WS
We will improve access and presentation of information on **available thermal capacity and fault level** on our network.	Ongoing
We will provide briefings for stakeholders on the proposed changes to charges through **Ofgem's significant code review**.	1 of 2 WS
We will lead the national engagement with stakeholders on more consistent **DNO connection charging approaches** to make charging fair for all of our customers. We will give stakeholders a least one month notice of any changes to our approaches	Ongoing
We will review and engage with our stakeholders, our **communications processes** with ICPs / IDNOs	Due to complete
We will improve 3rd party access to **Network Information** on GIS	Ongoing
We will engage with our stakeholders on the impact of our **Network Management System**	1 of 2 WS
We will offer engagement opportunities in relation to **land consents** to assist with this element of the process.	Due to complete
We will continue to host webinars on **policy** topics relevant to the stakeholders.	1 of 3

ICE 2019-20 Workplan Progress Update

Action	Progress
We will continue to work to a 11 day average **Time to Quote for LV**	10 days
We will continue to work to a 15 day average **Time to Quote for HV**	13 days
We will Issue LV / HV **Design Approval** responses within an average of 8 working days.	8 days
We will continue to work to a 7 day average **Time to Connect for LV**	6 days
We will continue to work a 15 day average **Time to Connect for HV**	13 days
We will continue to provide **Self Determination of Points of Connections** training to ICPs	1 of 2
Offer various **engagement events** covering a range of topics.	1 of 2 WS
Issue **regular updates** on ICE Commitments, Policy updates and Health and Safety via newsletters to registered stakeholders	On target 1 of 4

Question & Answer Session

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Wrap up and Close

Chris Fox

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Wrap Up & Close

- Please give us your honest feedback on the forms provided
- Presentation slides will be available via our website shortly.
- Future events, including webinars are available here
- Don't forget to get in touch with us at ICE@enwl.co.uk
- Thank you for your attendance and have a safe journey home.