

WESTERN POWER 
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Serving the Midlands, South West and Wales

CiC Group meeting 20th November 2018

Simon Pett

Network Services Manager

East Midlands

Agenda

- Welcome & housekeeping
- Introductions
- High level updates since July CiC event at Gloucester
- Approach to POC on 3rd party land – Patrick Daly
- Engineering Policy – Paul Jewell
- 11:30 - Coffee
- Connections Policy – Tim Hughes
- 12:45 – Review – Simon Pett/All
- 13:00 – Lunch

High level update of existing and new actions related to CiC activity since July

- October – 2017/2018 ICE Looking forward/looking back update report submitted
- New initiative in the connections section - to review the implementation of the A&D fees and work with other DNOs through the ENA to achieve more consistency in the methodologies which have been applied.

- 6.1 – Implement planned developments to WPD online services for ICP/IDNO – due Q4 2018
- 6.3 – Streamline the existing ICP live jointing process for ICPs undertaking high volume unmetered connection works – due Q4 2018
- 6.6 – Collaborate with ICP stakeholders to determine the where the scope of contestability of LV disconnections can be expanded – due Q1 2019

Design Approval – review for learning points:

- Rejection details are recorded as free format in the enquiry as they form the text of any email update for each stage
- No categorisation to identify trends
- Manual review identified recurring comments:
 - Clarity on proposed boundary of POC
 - Earthing design
 - TLF ratings relevant to transformer size
 - Cable sizes commensurate with WPD policy
- Recipients are notified of the reason of rejection

High level CiC ICE updates

- Quarterly Design Approval reports for 1/7/18 to 30/9/18 were published

<https://www.westernpower.co.uk/Connections/Useful-Information/Competition-in-Connections/Design-Approval-Quarterly-Report.aspx>

Market Segment	Design Approved				Design Rejected			
	Min	Max	Avg	Total	Min	Max	Avg	Total
EHV Demand				0				0
EHV Generation	4	20	12.75	4	9	13	10.67	3
HV Demand	0	10	2.92	98	0	10	6.54	13
HV Generation	0	0	.00	2	7	7	7.00	1
LV Demand	0	10	2.78	65	3	10	6.25	4
LV Generation				0				0

High level CiC ICE updates

Self Approval – as reported in the ICE plan for 2017/18

ICP Self Approved Design – 292 = 35.96%

WPD Design Approval – 520 = 64.04%

Total Design Approvals – 812

Audit results of ICP Self Designs are communicated on the monthly Inspection Results report to each ICP

High level CiC ICE updates

WPD Approved materials list

Published in July on our website and can be found in the technical information section

<https://www.westernpower.co.uk/tech-info/wpd-material-suppliers-listing>

Engineering Policy

Paul Jewell

Preparing the network for future demands

FUTURE NETWORK INNOVATION FOR EVS

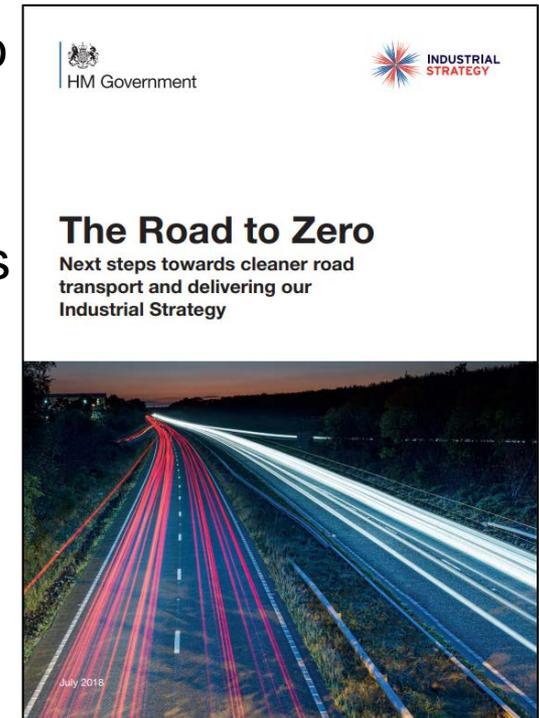
1. Superfast electricity
2. Three-phase streetlighting connections
3. Vehicle charging hubs
4. Vehicle to grid charging

SUPERFAST ELECTRICITY: BACKGROUND

1. Historically, domestic supplies are single phase
2. Typically the load was lighting and heating
3. Single phase cut-outs were 60A with latest grey DMC single phase cut-outs at 100A
4. 60A supply had been sufficient, as homes were mainly gas heated

SUPERFAST ELECTRICITY: THE EFFECT OF THE CARBON PLAN

- The Government's "Road to Zero" strategy seeks to decarbonise heat and transport
- Likely increase in flexible Low Carbon Technologies (LCTs):
 - Battery / energy storage (ES)
 - Small scale generation (PV)
 - Heat pumps (HP)
 - 32A EV chargers (EV)
- LCT demand is likely to increase beyond the current single phase 60A standard

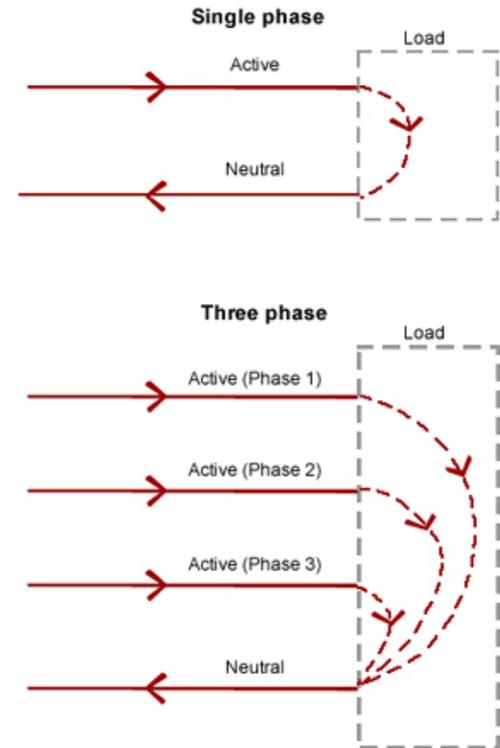


SUPERFAST ELECTRICITY: NETWORK LOSSES

- A small percentage of energy is used to “power” the network and is described as losses. Losses energy = running costs of the network
- Losses are related to the circuit load current and become more apparent at high load current situations due to a squared function
- DNOs try to reduce losses by reducing the load

SUPERFAST ELECTRICITY: THE WAY FORWARD

- WPD are pioneering “superfast electricity” on low voltage service cables
- This is where customers with higher demands could use a three phase larger capacity service cable
- We believe all new service cables to new build housing should change to a three phase design



SUPERFAST ELECTRICITY: THE BENEFITS

- Increased capacity for domestic Low Carbon Technologies, including fast home charging for future EVs / PVs and heat pumps
- Provides greater flexibility for battery storage to support electricity networks
- Reduces losses on the LV network and transformers by spreading the current over three phases
- Opportunities to provide vulnerable customers with cheaper energy using the services of an aggregator

SUPERFAST ELECTRICITY: PROJECTS

- Pilot projects with Pobl Housing Association, SERO Homes, Monmouthshire County Council and Welsh Government
- Installing three phase services to a housing estate with provision for bespoke rapid EV charging points
- Allows us to evaluate the practicalities and develop a set of company standards
- Findings will be shared with Ofgem and the industry, with a view to promoting the move to three phase design



monmouthshire
sir fynwy



people making a difference



Llywodraeth Cymru
Welsh Government

THREE-PHASE STREETLIGHTING CONNECTIONS

- Circa 30% of houses don't have driveways making EV charging an issue
- We are looking to work with developers/councils to lay dedicated 300mm² four core LV mains cables and fibre optic cabling for streetlights circuits to provide charge points
- Also, we could install a circa +50kW rapid charger adjacent to each new 11/0.4kV unit substation to provide a rapid charge facility for that estate



VEHICLE CHARGING HUBS

- In a “design phase” with a manufacturer to produce a low loss unit transformer to connect directly to the 11kV network



- This would mean car parks / garages / airports / supermarkets could provide around 100 charge points
- In contact with a charge point developer to test the product once a suitable site becomes available

HOME TO GRID CHARGING

- WPD are working with Sero Homes to create “smart housing” through clever use of LCTs where the PV and ES provide the power for the EV charging
- WPD and Sero Homes are looking at using the PV, ES and possibly the EV battery via an aggregator to provide support to National Grid

Questions?

- Discuss the approach to Points of Connection that are identified on 3rd party land.

- Coffee

Connections update

Tim Hughes

Connection Policy Manager

Connections Update

Online application/notification and completion process

- Our website team is developing a web browser based online function to allow ICPs/IDNOs to undertake a number of activities:
 - Apply for a connection offer
 - Submit work notifications under the live jointing process
 - Submit completion certificates under the live jointing process

- The application function will be sited within the same online portal as the notification and completion process to:
 - Provide a single login for all services
 - Enable a consistent look and feel to each function
 - Enable ICP's to view active notifications, completions and connection applications within the same dashboard

Connections Update

ICP Dashboard

Welcome text if needed... class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Mauris gravida pretium felis nec egestas. Quisque molestie convallis molestie. Donec sed tortor tellus.

Your enquiries

Search your applications

 Show 60+ days[Make an Enquiry >](#)

Enquiry Ref	Job Ref	Address	Customer Name	Status	Actions
03123188	REF10392	5	Name Nameson	SUBMITTED	>
03123188	REF10134	1	Name Nameson	SUBMITTED	>
03123188	REF21347	3	Name Nameson	SAVED	
03123188	REF10234	32	Name Nameson	SAVED	
03123188	REF09743	32	Name Nameson	SUBMITTED	>
03123188	REF72549	32	Name Nameson	SAVED	
03123188	REF53197	32	Name Nameson	SUBMITTED	>
03123188	REF67590	32	Name Nameson	SAVED	

Connections Update

Online notification and completion process

- This system enables ICPs to:
 - Submit work notifications for future planned works
 - Submit completion certifications
 - Upload as constructed drawings and associated documents
 - Save progress on partially completed submissions

New application

What kind of connection activity would you like to carry out?

Text if needed... class aptent tediti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Mauris gravida pretium fells nec egestas. Quisque molestie convallis molestie. Donec sed tortor tellus.

Metered connection



Metered disconnection



High Voltage (HV) connection



Unmetered connection



Connections Update

ICP & IDNO online application process

- We have commenced development of an online application tool specifically for ICPs and IDNOs

- This tool can be used to submit applications for:
 - POC offer
 - Section 16 offer
 - Self-determined POC submissions

- Online application tool will sit alongside existing CIRT process

- Once established, plan is to extend functionality

Connections Update

ICP & IDNO online application process

- Applicants will be asked to select who is responsible for a number of activities in the connection application process:
 - Determination of the POC
 - Downstream design of assets to be constructed
 - Approval of the downstream design
 - Physical connection to the existing WPD network
 - Obtaining legal consents
 - Ownership of the constructed network

- Identifying responsibilities at the outset ensures a more accurate connection offer is issued.

Connections Update

Online application/notification and completion process

- Next steps:
 - Finalise the development
 - ICP user testing
 - Rectify any issues raised during testing
 - Implement the changes to the live website
 - Provide access, guidance and login details to ICPs

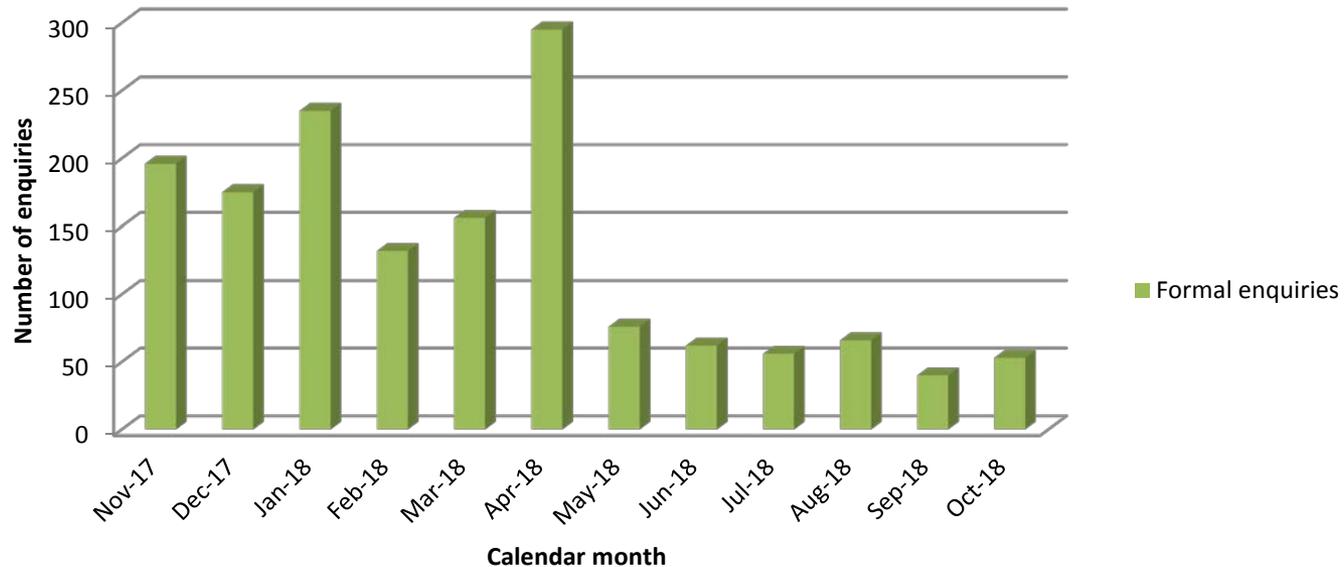
- Timescales:
 - Development completion by the end of November
 - Testing with selected ICPs in early December
 - Deliver the new online system by the end of this year

Connections Update

A&D Fees update

- What has happened since the Regulations were introduced?

Formal Enquiries Received



Connections Update

A&D Fees update

- How is it been received?
- Concerns levied at a national level typically around non-uniformity of application
- There is a call to:
 - Provide additional and improved channels for dialogue with customers
 - Communicate more effectively throughout the connection application process
 - Publish detailed and up-to-date information on all costs incurred in preparing connection offers, on at least an annual basis, to improve transparency and accountability
- DNOs working together through the ENA

Connections Update

Capacity Allocation and Reservation

- We consulted on the issues we are encountering, setting out some proposals on our minded to approach in how we allocate network capacity and allow customers to reserve it at three key stages of the connection process;
 - Application
 - Acceptance of offer
 - Energisation and subsequent build out
- Decision Document was issued in August
- The update report sets out the conclusions we have drawn having considered customer responses

WPD Decision Document:
An update report on our
Consultation on Allocation and
Reservation of Capacity

August 2018

Connections Update

Capacity Allocation and Reservation

- Next step is to develop policy and process in a number of key areas including:
 - Connection offer milestones
 - Capacity Reservation rules
 - Treatment of speculative developments
 - Developing infrastructure offers

- Timescales:
 - Develop throughout the Autumn
 - Implement by the end of March 2019

Connections Update

Allowable Changes

- New guidance document outlining good practice for DNOs when assessing whether or not a change can be made to a connection application
- Specifically covers changes - after a connection request has been made and before energisation
- Provides clarity for the customer and manages expectations
- Includes high level over-riding principles and several change request scenarios

The Voice of the Networks



Energy Networks Association

Fair and Effective Management of
DNO Connection Queues:
Treatment of Requests to Change
Connection Applications

Good Practice Guide

November 2018

Connections Update

Allowable Changes

- WPD has its own guidance document
- Largely reflects the ENA Good Practice document
- Revised format to provide clarity
- Added scenarios
- We will re-issue our document this month

Guidance on allowable changes to applications and accepted offers for connection to WPD's Distribution System

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V3 November 2018

Review and next steps

ICE 2019/20: key priorities

These headline priorities which were identified for our current workplan are likely to remain key areas for next year

- **Transition to DSO**
 - Tailored engagement, signpost flexibility services, collaborate with network and system operators
- **Availability of information**
 - Additional layers and detail on outages, constraints and capacity maps
- **Network capacity allocation and reservation**
 - New policies and procedures, strategic investment and forecasting.
- **Competition in connections**
 - Continue development and delivery of improvements

Overarching priorities:

- **Improving customer service** - which applies across our ICE initiatives
- **Improving consistency** - key consideration when developing and implementing initiatives

The CiC Group is a vital source of connection stakeholder priorities and improvement areas. What are your key priorities and are there other areas WPD should be focussing on?

- Your feedback on today's topics
- Question - have the responses provided satisfactory updates?
- Question – any other areas you would like further detail on for a future session?