Welcome to the Distributed Generation Forum
Cardiff 17th October 2013
Welcome and Introductions

Ron Loveland
Energy Advisor to the Welsh Government

DG Forum Cardiff 2013
10.00 Welcome and Introduction
   Dr Ron Loveland – Energy Advisor to the Welsh Government
   Distribution Network Operators (DNO): Overview
   Brian Hoy – Head of Market Regulation, Electricity North West
   DG Customers: Overview
   Zoltan Zavody – Head of Grid, RenewableUK
   Ofgem Perspective
   Andy Burgess - Associate Partner, Transmission & Distribution Policy
   DNO Progress Update
   Robert Symons - Chief Executive Officer, WPD
   Paul Brown – Director of Connections, Scottish Power

11.10 Coffee Break
11.40 DG Customer Perspectives
   Bob Weaver – Director, PowerCon (UK) Ltd
   Ben Cosh – Managing Director, TGC Renewables
12.10 Panel Discussion and audience Q & A
13.00 Lunch and Networking
The Voice of the Networks

Agenda - PM

14.00  Transmission Issues  
   Room - Syndicate 2  
   Access to the distribution network in the longer term  
   Room – Thomas Suite  
   Customer Service, Information & the Application Process  
   Room - Penarth Suite  
   Technical Issues  
   Room - Dylan Suite  

14.45  Repeat of breakout sessions  

15.30  Round up  

16.00  Close
The Voice of the Networks

DG Forum Cardiff 2013
The Voice of the Networks

Energy Networks Association

Overview of progress

Name: Brian Hoy
Position: Head of Market Regulation, ENW
Chair DG/DNO Steering Group
Date: 17 October 2013
DG Forum

- Ofgem held the first series of DG Fora during 2011
- These were mainly explanations on how to get connected etc
- Ofgem repeated the Fora again during 2012
  - London - 22 October 2012
  - Cardiff - 30 October 2012
  - Glasgow – 12 November 2012
- These were focused on DNOs reporting back on the progress they had made since the previous years Fora
At the London Forum, RenewableUK spoke and set out a challenge:
To have a “prioritised, scheduled, co-ordinated work programme”

On 27 November 2012, Ofgem requested a work plan before Christmas.
Also requested responses to 40+ questions not answered at the DG Fora.

Seeking to engage with customer and industry representatives.
Seeking feedback on the robustness of our plans.
### RenewableUK proposed Work Programme

<table>
<thead>
<tr>
<th>Issue</th>
<th>Suggestions</th>
<th>By When?</th>
</tr>
</thead>
</table>
| Customer service           | • monitor customer satisfaction  
• checklist of what customers can expect  
• account managers  
• recruitment of non-technical support | ?        |
| Application process        | • iterative process  
• database of turbine specs  
• option for extension of validity  
• contestable works part of same application | ?        |
| Information provision      | • information on LV network, voltage issues, and plans                        | ?        |
| Technical                  | • innovation collation and roll-out  
• safeguards against unnecessary works  
• consistency in standards interpretation  
• use of legacy projects and strategic developments | ?        |
| Charging                   | • fair deposit  
• itemised breakdown of costs, incl. contestable  
• application fee                             | ?        |
| Choice                     | • address barriers to competition                                            | ?        |
| Feedback                   | • risk-free appeals process  
• customer feedback seminars  
• issues log – also to capture new issues                    | ?        |

Source: Renewable UK presentation London DG Forum 22 October 2013
DNOs developed and published their plans...
We have now established a DG-DNO Steering Group
- To discuss and address distributed generation connection issues, share best practice, develop agreed solutions, and communicate progress to all stakeholders, notably at the annual DG Forum.

Steering Group comprises a cross section of stakeholders
- 6 DNOs
- 9 Trade Association representatives (both officers and practitioners)
- 2 representing ‘Competition in Connections’

Acting as an excellent forum to share best practice
- Been heavily involved in the organisation of today
- Established a DG Technical Forum
  - Hear more in break out session this afternoon
Summary

• Pleased that some demonstrative progress being made

• Pleased that we have created a focal point and a collaborative way of working

• We are on a journey, but at least we now have a clear map of where we are trying to go
DG Forum:
DG Customers – Overview

Zoltan Zavody
Head of Grid, RenewableUK
>50% (5GW) wind generation capacity is distribution connected

>12GW distributed generation expected by 2017/18 (NGET 2011)
Ease of connection & good customer service allow:

• more rapid, **efficient** deployment
• more **economic** deployment
• more **competition** in generation
• more **confident** deployment
• greater industry **momentum**
• more Ofgem confidence in **grid investment**
Our Experience over the Last Year

- good collaboration now in place between the DNO and DG communities – thank you
- trade associations **believe** good progress has been made on DNO DG workplans
- we hope this collaboration between the communities will continue beyond the approval of ED1 business plans ...
little pro-activity on wider interactions / policy threats to DG and a low-carbon economy:

- vision & scenarios for low-carbon uptake
- Statement of Works (NB: recent progress!)
- coordination of outages
- CMP 192 liabilities pass-through
- reforms to embedded charging benefits
- allocation of reinforcement costs
Progress to Look Out For

Development (we believe)
• Named point of contact for connection
• Database of technology specs
• Good practice on heatmaps
• Forum for addressing technical issues
• Breakdown of charges
• Contestable works in offer

Still to Come (not bottomed out)
• Interactive connection process
• Flexible contract validity
• Fair deposit
• Design & Assessment fees
• Resolution of technical issues
• Checklist of expectations
• Incentive for Customer Engagement (ICE)
For today

1. Are the DNO DG Workplans helpful?

2. Has the progress we see on paper been:
   a) translated into systems & processes?
   b) communicated to connectees on the ground?
   c) experienced by connectees on the ground?

3. What further issues should we include in our joint DNO-DG work?
END
Connecting customers
Ofgem’s role in enabling DG to connect

Andy Burgess, Associate Partner
17/10/13
Background

- Accompanying growth in DG was awareness that some customers had difficulty connecting to the network

- Range of tools to address these – licence conditions, industry codes, charging methodologies, various incentives linked to the revenue recovered from customers

- Gap remained in understanding. In 2011 & 2012 we instigated and hosted DG Forum events – customers/DNOs to discuss issues and how to improve arrangements

- Held in Cardiff, Glasgow and London each year. Over 300 stakeholders have attended

- After last year we expected DNOs to take the lead in these events – their customers, their services. We’ll continue to play an active role in monitoring progress and impact of our policies
Type of issues encountered

Application Process
- Lengthy and requires a lot of information upfront
- Recognition of heavy workload on DNOs

Provision of Information
- Feasibility studies not detailed or reliable enough
- Provision of network data would help developers know where to connect

DNO customer service and transparency
- Not designed around customer needs

Charges
- Connection costs can be high
- Not transparent

Innovation
- Lack of creative thinking and willingness to explore alternative approaches
Outcomes

• After last year, each DNO committed to developing (with customers), publishing and delivering a workplan. Quarterly updates

• Welcome commitment to addressing issues. Already yielding results:
  – DNOs focusing more on specific needs of DG
  – Better information/guidance
  – Dedicated resource
  – Online database of wind turbines
  – Online capacity maps
  – Access to network diagrams & design standards
  – ‘Fair’ terms for deposits
  – More detail in connection offers
  – Simplified & standardised processes

• Still more to do & some may have gone further than others. Starting to understand what’s possible. This is an ongoing process
Our work

- In the current electricity distribution price control (DPCR5, 2010-2015) we introduced:

  - Guaranteed Standards of Performance (GSOP) in connections. Minimum timescales for stages in the connection process, from issuing quotations through to energisation. Where a DNO fails to meet the standard it must make a payment to the affected customer.

  - A broad measure of customer service that includes a customer satisfaction survey with connections customers. A DNO stands to receive financial penalties or rewards based on their performance.

  - Obligations on the DNOs to produce a connection guide for distributed generation customers and publish Long Term Development Statements

  - Incentives to open up connections market to Competition
Our work

• For the next price control (RIIO-ED1, 2010-2015) we will strengthen DPCR5 arrangements. Introduce new mechanism to address customer issues -

Incentive of Connections Engagement. This will require DNOs to -

- submit evidence of how they have identified, engaged with and responded to the needs of their customers.
- develop a forward-looking work plan of actions to improve performance (with associated delivery dates).
- demonstrate performance against their relevant performance indicators and progress against their work plan of actions.
- A DNO that does not engage or respond to the needs of its customers will be subject to financial penalties

• Sound familiar? Formalises DG Forum approach – but with focus on outcomes
Costs and Innovation

• Recognise that for many the most significant issue is cost – particular where reinforcement is required

• No silver bullet. Someone has to pay for the work & our role is to protect interests of all customers – this means connection customers pay for costs that they drive

• There are options – we expect DNOs to consider alternate commercial arrangements

• We’ve invested over £30m of customer money funding innovative projects to release capacity/improve connections for DG
  – Flexible Plug and Play (UKPN)
  – Low carbon hub (WPD)
  – Accelerating Renewable Connections (ARC) (SP)
  – FlexDGrid (WPD)
Summary

• Want to hear if there have been improvements in –
  – Engagement
  – Processes
  – Information
  – Service
  – Procedures

• What represents best practice?

• What more can be done by the DNOs? How can Ofgem help in this process?
Ofgem is the Office of Gas and Electricity Markets.

Our priority is to protect and to make a positive difference for all energy consumers. We work to promote value for money, security of supply and sustainability for present and future generations. We do this through the supervision and development of markets, regulation and the delivery of government schemes.

We work effectively with, but independently of, government, the energy industry and other stakeholders. We do so within a legal framework determined by the UK government and the European Union.
Distributed Generation Forum
Cardiff
Thursday 17th October 2013

Robert Symons
Chief Executive
WPD’s DG Work Plan

- Published online on 10th Jan 2013

- Reviewed quarterly in line with customer feedback and updates published (31st March, 30th June and 30th September 2013)

- It comprises 24 actions with respect to:
  - Customer service
  - Customer feedback
  - Application process
  - Information provision
  - Consents & legals
  - Technical information
  - Charging methodology
  - Giving customers a choice
Significant actions completed
- Enhanced published information

- We have redesigned our website and published extensive information including:
  - Connections charging statements
  - Requesting network location plans
  - New connections process
  - Quotation accuracy scheme
  - Legal permissions and consents
  - Smart metering
  - Supplies to multi-occupancy buildings

- We have developed a website specifically for ICPs to provide detailed, technical information at [www.westernpowertechinfo.co.uk](http://www.westernpowertechinfo.co.uk)
Significant actions completed
- Constrained circuit maps online

- We have provided an overview map of our EHV networks (33kV and above) for all 4 WPD regions

- Highlighted circuits operating near constraint for the connection of any further DG

- Reason for the constraint shown as either a ‘thermal’ or ‘voltage’ limitation

- Maps updated every 6 months
Significant actions completed
- DG capacity maps online

- Indicates the potential capacity for larger generation connections on our 11kV network
- Designed to assist developers form initial plans
- Now live for all 4 WPD regions
Significant actions completed
- Downloadable small-scale mapping

- DVD package available for all 4 WPD areas
- Distributed to organisations considering an HV or EHV connection
- Includes information in PDF format, with WPD’s assets referenced to an Ordnance Survey “Vector Map District” background
- The data is updated every six months
- Also made available at: www.westernpower.co.uk/Partners/Small-Scale-Mapping.aspx
Significant actions completed
- Customer engagement events

- We have engaged over 300 stakeholders face-to-face via:
  - Six ‘connections surgeries’ at WPD offices
  - Six Renewable Energy Exchange events in Builth Wells (x3), Exeter, Cornwall and Stoneleigh (Warwickshire)

- At these events we explained:
  - The connections process
  - Timescales
  - Costs
  - Requirements for different types and sizes of generation
  - Information about taking advantage of the Government’s FIT and Green Deal schemes
Applying innovative solutions

- WPD’s innovation programme is the largest of the DNOs
- All projects are delivered via local teams and are tested in geographical areas before full release to WPD planners
- Several new solutions are now at the initial deployment stage

### Low Carbon Hub

- **Permanently adapting the 33kV network** in East Lincolnshire
- **Allowing the connection of over 40MW of additional DG** by making best use of existing infrastructure
- **Developed an online self service assessment tool** to estimate constraint times and durations

### Registered Power Zone

- **132kV dynamic line rating policy** was approved in June 2013
- **Over 12MW of connection offers** already made
- **Includes support for additional offshore wind capacity**

### Alternatives to conventional reinforcement

- **Long term contract with DG aggregator** in lieu of conventional reinforcement
Innovative Connection Offers

- Customers will receive a conventional offer where capacity exists and we will offer one or more “smart” solutions:

  - **Timer**
    - Connection offers based on enhanced seasonal and time-of-day factors
    - Generally best suited to smaller DG (up to 1MW)

  - **Soft Intertrip**
    - Simple logic based intertrip schemes using Enmac
    - Triggers DG constraint in the event of minimum system demand coinciding with maximum DG export

  - **Active Network Management (ANM)**
    - Connection offers which are variable depending on dynamic network conditions (e.g. dynamic line rating)
    - Similar to those techniques being trialling in the Lincoln Low Carbon Hub
How we know our Plan is working
- Annual DG customer satisfaction surveys

- WPD ranked 1-4 relative to the industry Broad Measure connections survey
- On the whole, DG satisfaction is higher than satisfaction for all connections work

![Chart showing Ofgem Broad Measure - Connections 2012/13](chart.png)

- **WPD South Wales (DG)**: 9.19
- **WPD West Midlands (DG)**: 8.75
- **WPD East Midlands (DG)**: 8.73
- **WPD South West (DG)**: 8.57
- **WPD South Wales (All)**: 8.42
- **WPD East Midlands (All)**: 8.33
- **WPD West Midlands (All)**: 8.31
- **SSE Hydro**: 8.21
- **SSE Southern**: 8.14
- **Electricity North West**: 7.78
- **Northern Powergrid (YEDL)**: 7.62
- **UK Power Networks (SPN)**: 7.48
- **SP Distribution**: 7.47
- **Northern Powergrid (NEDL)**: 7.41
- **UK Power Networks (EPN)**: 7.36
- **SP Manweb**: 7.34
- **UK Power Networks (LPN)**: 7.23

Legend:
- WPD – DG only
- WPD – all connections
- Other DNOs – all connections
Improvements

- WPD have made improvements in every area, but most significantly:
  - Ease of initial contact (8.19 → 8.82 out of 10)
  - Explaining the process (8.63 → 8.96)
  - Amount of communication throughout the process (8.53 → 8.84)

- There are still areas for continued improvement:
  - 33% would like to see more communication
  - 20% would like to see a clearer explanation of the process/quotation
RIIO-ED1
- Incentive on Connections Engagement (ICE)

• Potential penalty of up to 0.9% p.a. of allowed revenue

• ICE requires DNOs to submit evidence that they have:
  - Engaged with a broad range of customers
  - Responded to the needs of their customers
  - Set relevant performance indicators
  - Developed forward looking work plan to improve performance
  - Report actual performance against indicators and work plan.
WPD Connection Customers Steering Group (CCSG)

• WPD have already established a CCSG ahead of RIIO-ED1

• Meetings will take place 3 times a year – the first on November 12th 2013

• The CCSG will be representative of all connections stakeholders and market segments, across WPD’s 4 distribution areas.

• It will be modelled on WPD’s wider Customer Panel – the first in the industry

• We have identified key connections ‘experts’ and interested parties as panel members
Summary

- We have completed a number of significant actions in the last year
- Feedback indicates that we are heading in the right direction
- We recognise that there is more to do and we welcome further feedback
Distributed Generation Forum – 2013

Paul Brown
Director - Connections

17th October 2013
Cardiff
About Us

- Two Distribution Licenses
  - SP Distribution
  - SP Manweb
- We serve 3.5 million customers
- We own, maintain and operate;
  - 30,000 substations (one substation for every 100 customers)
  - 40,000km overhead lines (once round the globe)
  - 65,000km underground cables (almost twice round the globe)
- 2,500 internal employees
  - Supplemented with a further 2,500 contractors
The past year in statistics...

**Enquiries**
- 27% increase year on year in DG enquiries

**Contracts Secured**
- 14% decrease in connection offers accepted
- 29% increase in the value of connection offers accepted

**Average Time to Connect**
- In comparison to 2012 on average, August 2013 achieved a 30% decrease in the average time to quote for HV DG connection offers
- In the same period, achieved a 35% decrease in LV DG connection offers

**Competition in Connections**
- 259 competitive connection quotations were offered in 2012/13, as opposed to 28 in 2011/12
- The estimated value of competitor awards in last 3 years - £32m

* Presents absolute data from enquiry to quotation issue (inclusive of any clock pauses)
We know our Customers....

North
- 390 customers sought a DG connection offer
- 687 connection offers made
- Average of 8.7 out of 10 scored in Customer Service Connections Quotes since April

South
- 325 customers sought a DG connection offer
- 733 connection offers made
- Average of 8.3 scored in Customer Service Connections Quotes since April
DG Work Plan

DG Work Plan Owner: Graham Campbell
DG Pre Contract Manager: Paul Black
Customer Account Manager (Scotland): Elaine Forsyth
Customer Account Manager (England & Wales): Louise Edwards
Customer Account Manager (DG Workplan & Processes): Rachel Shorney

SP Energy Networks DG Website: http://www.spenergynetworks.co.uk/dgis
DG Enquiries (Scotland): graham.campbell@scottishpower.com
DG Enquiries (England & Wales): paul.black@scottishpower.com

RenewableUK Suggestions

<table>
<thead>
<tr>
<th>RenewableUK Issues</th>
<th>RenewableUK Suggestions</th>
<th>Proposed Approach</th>
<th>SP Energy Networks High Level Plan</th>
<th>RAG Status</th>
<th>Q1 2013</th>
<th>Q2 2013</th>
<th>Q3 2013</th>
<th>Q4 2013</th>
<th>Q1 2014</th>
<th>Q2 2014</th>
<th>Comments - Progress Made to Date (September 2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 Customer Service</td>
<td>Collaborative with other DNO’s</td>
<td>1.1 Engage with other DNO’s to agree a common approach to survey and monitor Customer Satisfaction</td>
<td>Complete</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Agreed with DNOs to undertake a joint survey to DG Customers based upon the current Broad Measure of Customer Satisfaction; furthermore SP have proposed and drafted a more in-depth and DG specific survey for quotations.</td>
</tr>
<tr>
<td></td>
<td>Collaborative with other DNO’s</td>
<td>1.1.2 Establish contents of survey and agree format and timetables with other DNO’s</td>
<td>Complete</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A more detailed survey has been drafted and circulated to DNO representatives for comments.</td>
</tr>
<tr>
<td></td>
<td>Collaborative with other DNO’s</td>
<td>1.1.3 Conduct survey, review results and formulate an action plan to implement any findings</td>
<td>Original Target</td>
<td>Revised Target</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SPEN will undertake a survey at the end of 2013 to incorporate findings from the improvements made within the workplan this year and identify issues for 2014.</td>
</tr>
<tr>
<td></td>
<td>DNO Specific</td>
<td>1.1.4 Communicate the results and implementation plan with Customers and Stakeholders</td>
<td>Original Target</td>
<td>Revised Target</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>As above; revised target for Q4 2014.</td>
</tr>
<tr>
<td></td>
<td>DNO Specific</td>
<td>1.1.5 Periodically refresh the survey if and when deemed appropriate</td>
<td>Original Target</td>
<td>Revised Target</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>As above; revised target for Q4 2014.</td>
</tr>
<tr>
<td></td>
<td>DNO Specific</td>
<td>1.2.2 Develop a Customer survey application based on requirements and publish on SPEN website and issue at any future Customer Surgeries / Forums</td>
<td>Complete</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Document published on SPEN website on attached link: <a href="http://www.spenergynetworks.co.uk/dgis/understanding_the_connection_process.asp">http://www.spenergynetworks.co.uk/dgis/understanding_the_connection_process.asp</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collaborative with other DNO’s</td>
<td>1.2.3 Engage with other DNO’s to establish a common approach for all Customer Enquiries</td>
<td>Engage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DNO DG Workgroup continuing to work together to agree a common approach. SPEN details for all Customer enquiries shown on SPEN website at the attached link: <a href="http://www.spenergynetworks.co.uk/connecting_to_our_network/documents/Our_DG_Connection_Process%20Explained.pdf">http://www.spenergynetworks.co.uk/connecting_to_our_network/documents/Our_DG_Connection_Process%20Explained.pdf</a></td>
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<tr>
<td></td>
<td>DNO Specific</td>
<td>1.2.4 Refresh and update our information for Customers as and when required from the results of any Customer Feedback from 1.1.3 above</td>
<td>Original Target</td>
<td>Revised Target</td>
<td></td>
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<td></td>
<td></td>
<td>Revised Target for Q1 2014 when 1.1.3 above completed.</td>
</tr>
<tr>
<td>1.3 Account Managers</td>
<td>DNO Specific</td>
<td>1.3.1 Appoint Account Managers to establish contact with the Customer upon receipt of a new enquiry and discuss the actual requirements and timetables for each enquiry.</td>
<td>Complete</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Account Manager contact details published on SPEN website on attached link: <a href="http://www.spenergynetworks.co.uk/connecting_to_our_network/dgis/contact.asp?NavId=55&amp;subNavId=55">http://www.spenergynetworks.co.uk/connecting_to_our_network/dgis/contact.asp?NavId=55&amp;subNavId=55</a></td>
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<tr>
<td></td>
<td>DNO Specific</td>
<td>1.3.2 Conduct workload review to ensure adequate resource levels for all aspects of the quotation process</td>
<td>Ongoing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Resource levels and mix of ability are regularly reviewed to ensure resource levels and capability meets the demand being sought by our Customers.</td>
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<tr>
<td>1.4 Recruitment of Non-Technical Support</td>
<td>DNO Specific</td>
<td>1.4.1 Develop additional support functions that can be utilised as required, e.g. ad hoc wayleave and civil resource support to peak workload during busy periods</td>
<td>Complete</td>
<td></td>
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<td></td>
<td>Development of additional resource capacity to manage any future peak lopping as and when it is required.</td>
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</table>

- Update and publish our DG Work Plan quarterly
- All quarterly updates can be found on our website at; http://www.spenergynetworks.co.uk/connecting_to_our_network/dgis_work_programme.asp
DG Work Plan - Progress

Q4 2012 – Launch
• Actions proposed
• Status provided and actions assigned

Q1 2013 Update
• Simplified communications
• Dedicated Account Managers provided
• Customer surgeries established

Q2 2013 Update
• Extension to validity communicated
• DG Manager appointed
• Post application and quotation contact

Q3 2013 Update
• Development of DG Heat Maps
• Proposed ‘Quote +’ methodology

Overall 56 of 58 actions are tracking green
DG 11kV Heat Maps

- North (SPD) heat maps are available on-line now (published 14th October 2013)
- South (SPM) heat maps will be available from December 2013
• Green – operational factors within tolerable limits; reinforcement unlikely
• Light Blue – one operational factor nearing tolerable limit; reinforcement a possibility
• Dark Blue – at least one operational factor at tolerable limit; reinforcement likely
The heat maps are available in ‘.kmz’ format, compatible with many GIS software packages such as ArcGIS, Google Earth and others.
Heat Maps – Compatibility

• The '.kmz' files can be made available to you upon request
• Your responsibility to ensure compatibility and licence requirements are conformed to
• Data will be updated periodically, next update will be provided early in the new year
‘Quote +’ - Draft Proposal

**Initial Application**
- Customer specifies the detail of the connection required
- DNO establishes whether Customer wishes to proceed with ‘Quote +’ for cost reflective charge (propose £500)

**Feasibility Assessment**
- Customer and DNO agree the number of options to be assessed in the Feasibility Study (propose 3 options)
- DNO provides the Customer with the agreed outputs at a fixed location (propose 20 days)

**Customer Review and Decision**
- Customer indicates their preferred option (propose 5 days)
- DNO progress the Formal Application for the preferred option identified by the Customer

**Formal Quotation**
- Date considered for interactivity will be the date of the initial request for ‘Quote +’
- Formal Connection offer provided to the customer
The ARC Project - Update

• Key Facts
  – 4-year project concluding in December 2016, valued at £8.4m
  – Focussed in the Borders region of Scotland (approx 2,700km²)
  – Deployment of a top-down Active Network Management (ANM)
  – The project partners Smarter Grid Solutions, Community Energy Scotland and the University of Strathclyde

• Progress To Date
  – Three GSPs identified for ANM rollout (Dunbar, Berwick & Galashiels)
  – Deployment of first top-down ANM scheme scheduled for end 2013
  – Project will tackle connections from LV through to those connections constrained as a result of known Transmission constraints
  – Positive discussions held with NGET to date regarding use of ANM to facilitate connection of DG ahead of reinforcement

• Commercial Principles Of Access
  – Within trial area, three ANM zones identified where generators have the opportunity to connect under an ANM generation management scheme
  – Principle of access will be based upon ‘Last In First Off’ (LIFO)
  – First ANM connection offers expected to be issued March 2014 to both new and existing generation who wish to become part of scheme
Our ED1 Plans

• Our commitment to faster connections
  – Work with you to deliver fast track quotations and connections
  – Continue to develop our 11kV heat maps and the information we provide you
  – Reduced our load driven reinforcement trigger
  – Introduce on-line quoting and project tracking

• Provide first class customer service
  – Simplify our language and navigation of our website
  – We will contact you at each stage of the process
  – We will keep our promises, we will pay you £10 when we don’t
  – We will target zero GS failures, we will pay you double the compensation if we do fail

• Facilitating a competitive market
  – We will ensure our customers continue to have a choice
  – Our service will not change whatever option you choose
  – Engage with ICP / IDNOs regularly to ensure any perceived barriers to competition are removed
  – Seek to extend the boundaries of competition including jointing to our network and self-determination of POCs
Summary

We are engaging with our DG customers more than ever

The DG Work Plan is addressing your areas of concern and we are on track with our plans

Our Heat Maps and proposals for ‘Quote +’ are industry leading

ED1 is an evolution on what we are doing now
Coffee Break
Bob Weaver MIET, Director, PowerCon (UK) Ltd.
• Bio
• Current Work and Projects
• Regulatory Background
Technical Sub-Group Work

• Overview

Concerns Relating to Smaller DG Connections

• Thermal Rise
• Fault Level
• Voltage Rise

Concerns relating to Larger DG Connections

• Thermal Rise
• Fault Level
• Voltage Rise
[PowerCon (UK) View and Observations]
With particular reference to SP and WPD

- Feasibility Study Proposals (SP Proposals to the DG Group)
- Ease of Application Process within the DNO
- Provision of combined Section 15/16 Applications/Quotes
- Acceptance and Design fees to Secure Grid Offer
- Quote Validity Periods and Extension Period
- Provision of Account Manager or Alternative Arrangements & Call Backs
- Provision of Heat Maps or Alternative Arrangements
- Provision of Cost breakdowns and CAF Apportionment Calcs
- DG Seminars or Alternative Arrangements
Grid Offer Acceptance: Fees & Timelines

• Now considered (in general) to be acceptable and reasonable

Stage Payments and Associated Timelines

• Still work to be undertaken.

Final Connection Timelines

• Still work to be undertaken (where there is any element of reinforcement).
Advice to DG Developers

- Review DNO Websites.
- Review Heat Maps (but note limitations.).
- Arrange meetings with DNO’s..... Early as possible.
- Don’t be afraid to challenge outputs from DNO’s.
- Insist on Cost Breakdowns and CAF apportionment breakdowns.
- Insist on Section 15 and section 16 quotations.
- Consider using Agents and ICP’s.... They can add value and ‘know the ropes’.

Statements and Challenges to Ofgem

- Clearly DG Incentive promoted under DCPR5 have not been required?

What are the directions to the DNO’s relating to :-
- Common Connection Charging Statement?
- Charges associated with Reinforcement?
- Timing for reinforcement occasioned by Reinforcement?
• Any thoughts and observations from delegates?

• I will be available during the afternoon break-out sessions.

• Thanks for your time!
DG Customer Perspective

Ben Cosh – Managing Director
TGC Renewables
TGC is one of the UK’s largest solar developers

STA: 1MW = 303 homes. ONS 2013 2.3 people per home.
Established in 2006

- 409 Grid applications 11-132kV
- 70MW of Solar farms developed (Enough to power Taunton)
- 150 wind turbines installed
- 350MW active pipeline
- 500MW+ on hold due to grid constraints
- Experience of all DNOs
Good Progress by WPD

- WPD is ramping up
- Improving customer service
- Named contacts and good working relationships
- Website is user friendly
- Good heat maps showing capacity
- Stage payments match costs
- Adding record numbers of new connections
Positive Progress by SPEN

- Basic heat maps
- Interactive application tracking
- Extendable validity periods
Security of supply is at risk with old power stations being decommissioned.

UK has committed in domestic and international law

- Cutting out 80% of the carbon in our electricity sector by 2050
- Reducing the EU’s emissions by 20% by 2020
- Ensuring 15% of our energy is renewable by 2020

AND consumer bills need to be kept down
South West 33kV network is voltage constrained at summer min load. Sundays in June constrain the entire system.
South Wales is full too

Sundays in June constrain the entire system
North Wales has capacity

Some Capacity remains in North Wales
Sorry, there’s still more to do

• Unused capacity needs to be released
• Flexible plug & play (FPP) needs commercialisation in 2014
• Price signals need to manage voltage on DNO infrastructure to encourage maximum utilisation through the year
  – EMR Capacity Mechanism the clock is ticking.
  – Incentives in RIIO-ED1 are crucial
• Reinforcement needs to be accelerated (Wayleaves, Planning, Cost Sharing Mechanisms)
The clock is ticking...

ben.cosh@tgrenewables.com
Panel Discussion & Audience Q&A