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James Veaney
Ofgem, 9 Millbank,
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5 May 2016

Dear James,

RES Response to [Consultation on getting an electricity connection when the network is constrained.](#)

Renewable Energy Systems Limited (RES) is the UK's largest independent renewable energy developer with interests in onshore wind, wave and tidal, offshore, solar, energy storage and demand-side response. A wholly owned UK company at the forefront of innovation and infrastructure development around the world, RES now employs over 1,000 people and has built over 1,000MW of wind energy assets in the UK.

RES welcomes the opportunity to feedback to Ofgem on the DNOs various approaches to discussing and progressing solutions to connect in areas where the network is constrained. In order to provide useful and specific feedback, we have described some of our experiences in detail for your consideration, as such we have clearly marked these answers as confidential and ask that you redact these specific answers from any publication.

In summary, on DNO constraint offerings there is a great mix of pragmatic and historic, with some (still limited) roll-out of more active and dynamic management for projects which happen to be in the right area. We believe that charging and access policies should be reviewed alongside those for the transmission system with a view to greater harmonisation, especially due to the increasingly dynamic interaction between transmission and distribution and due to the impact of transmission limitations on progressing new distribution connections. We believe that for efficient network planning it is essential that any distribution constraint is measured and valued.

RES looks forward to fully contributing to further developments on this issue.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'G.Pannell', written in a cursive style.

Graham Pannell
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Q1. Do you consider there are constraints on the network in this DNO's region?

We have active projects in 12 of the 14 licenced DNO regions (everywhere except London and ENW). We are aware of serious network constraints in **all** of these 12 regions. All of the DNOs now provide some form of heat map¹ – looking at both EHV and transmission implications together² it is evident that the majority of GB is now categorised as “red” for limited or zero available export capacity, based on the currently contracted position (see annex).

Q2. What impact have these constraints had on your ability to get connected to the network?

[provided separately under confidentiality]

Q3. To what extent has the DNO tried to find ways to help you get connected in constrained areas? For example:

- a. To what extent has the DNO offered you more flexible and alternative connection arrangements alongside conventional firm connections? If not, then have they explained why not?
- b. If the DNO does offer alternative arrangements, is the information provided sufficient to decide whether or not to go forward with the connection?
- c. If the DNO does offer alternative arrangements, do you find the associated terms (e.g. level of potential curtailment and certainty around maximum curtailment levels) acceptable?

[provided separately under confidentiality]

4. What information has the DNO shared with you on its work plan of activities designed to help enable connections in these areas?

- a. How comprehensive has this information been?
- b. To what extent has the DNO provided information on associated delivery dates of its work plan of activities?
- c. Are you aware if the DNO is forecasting future levels of growth in the type of connections you require?
- d. Are you aware of any plans the DNO has to invest in new network capacity where the network is constrained, to enable further customer connections? Have you been consulted on these plans? Has the DNO explored with you ways in which this could be funded?

We note and welcome all of the DNOs' efforts to produce a work plan of improvements for generation connections under the ICE scheme. Although not directly related to relieving network constraint, there are many related actions within these plans, such as commitments to roll out 'flexible connections' terms more widely. We welcome these and more especially welcome any means of helping a customer to find out more information on any single action in the workplan – often such statements of intent are not coordinated with links to further information.

¹ E.g., but not limited to: <https://www.ssepd.co.uk/generationavailability/>, http://www.spenergynetworks.co.uk/pages/connection_opportunities.asp, <https://www.northernpowergrid.com/generation-availability-map>, <http://www.westernpower.co.uk/Connections/Generation/Generation-Capacity-Map/Distributed-generation-EHV-constraint-maps.aspx>.

² Some DNOs now include transmission system limitations – for example the SSE hat maps. Some do not, for these we generally discuss directly with NGET/SHET/SPTL, and use what information we find in NGET's ETYS publication.

We actively support many of the individual DNOs in developing their service to connecting generation customers, for example by participating in WPD's *Connections Customer Steering Group*, and in similar working groups for other DNOs. Our preferred method for obtaining updates on new network capacity and advice on network access policy change has been through direct discussion with relevant individuals at each DNO, often through such groups and related fora such as the annual ENA DG Fora.

We welcome the joint work by the DNOs and the TSO on the trial for a new Statement of Works process. We expect that as information is gathered for each GSP in turn, DNOs can make the relevant information available to all DNO customers to better make decisions on connection possibilities and timelines.

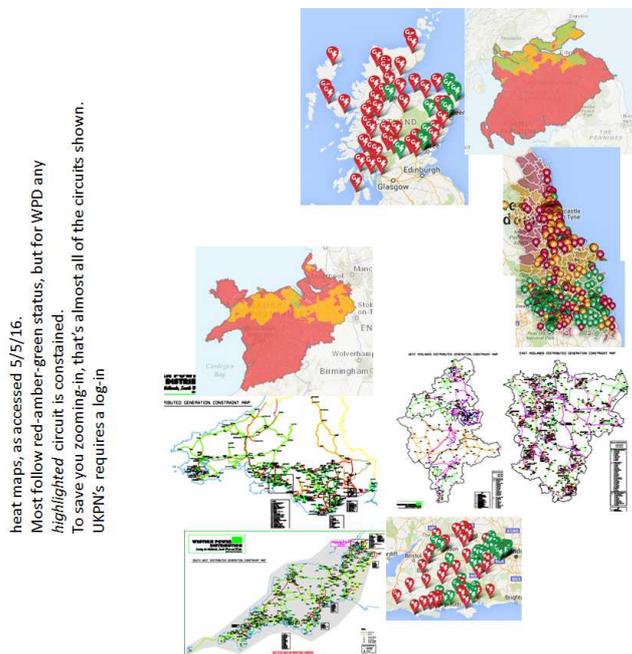
5. Please give details of any other activities you would expect the DNO to be undertaking to deal with constraints on their network. Is the information outlined in the document be sufficient for the customer to take an investment decision?

Charging and Access: A consistent and holistic approach to network charging and access policy is necessary to optimally deliver efficient planning and funding of networks assets, at all network levels and particularly at the transmission/distribution interface. We are concerned about inconsistent investment signals being sent to distribution or transmission connecting users, particularly for projects which could connect to either system. Overall, **we see greater harmonisation between rules governing charging, access and planning policy at transmission and distribution systems as critical to timely and economic future connections.** RES considers that complications such as those set out in the consultation strengthen arguments for the introduction of shallow charging in a manner aligned with the transmission system methodology. This would remove some of the arbitrary commercial effects of the currently divergent charging methodologies and establish a level playing field for all generators; in what is becoming an actively managed total system in which energy sources of all sizes participate.

Using constraint of generation as a proxy signal to indicate where reinforcement would be justified
While the TSO applies the "Connect & Manage" policy to balance short-run costs (explicitly including generation constraint) against longer-term investment costs, at present the great majority of distribution generation constraint is unrecorded and the energy simply 'spilled', which we believe contributes to a serious inefficiency in network planning. Separately from any question of compensation, we believe that all such constraint should be measured and valued in order to provide a proxy signal for network investment. In a simple example, where a single generator accepts a constraint condition to be able to connect in a specific location, this constraint may be so small as to never justify network investment. However, for every subsequent connectee the needs case grows and it may become evident that the total value of 'spilled' energy in this example location would justify investment in more network capacity; with the added benefit that operational generation in this location, while constrained, provides considerable certainty as part of any needs case to develop additional network capacity. We would like to see a framework developed which enables this efficiency to be realised. For more detail on this concept, with a worked example of specific implementation, please see the output papers from Smart Grid Forum Work-stream 6, specifically the sub-group on generation and storage - the "*flexible connections*" annex.

Annex – DNO heat maps, as at 5/5/16

Most DNOs follow red-amber-green convention. For the WPD patches, any highlighted circuit is constrained, so to save you zooming, all four can effectively be considered as mostly red:



<https://www.ssepd.co.uk/generationavailability/>,

http://www.spenergynetworks.co.uk/pages/connection_opportunities.asp .

<https://www.northernpowergrid.com/generation-availability-map>

<http://www.westernpower.co.uk/Connections/Generation/Generation-Capacity-Map/Distributed-generation-EHV-constraint-maps.aspx>

(UKPN's requires login) <https://www.ukpowernetworks.co.uk/internet/en/our-services/list-of-services/electricity-generation/find-out-where-our-overhead-network-is/>

<http://www.enwl.co.uk/our-services/connection-services/help-faqs/useful-information>