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Our ref

Your ref

Date

9 February 2017

Dear Sir,

Future arrangements for the electricity system operator: its role and structure

I am writing to you in response to your consultation on the above.

Western Power Distribution is the Distribution Network Operator (DNO) that serves 7.8 million customers across the South West of England, South Wales and the Midlands.

We believe that the first objective highlighted in the consultation paper at paragraph 2.1 needs to be modified to ensure that the SO works in combination with the DSO to deliver whole system benefits ensuring that these are delivered by the DSO where cost effective rather than managing the interactions with DSOs.

In this context, WPD is best placed to deliver as a Distribution System Operator (DSO) with operational responsibility for the whole of its distribution network in the near future because;

- WPD has a proven record of operating an efficient network delivering exceptional network reliability whilst delivering the highest levels of customer satisfaction in the industry;
- WPD's innovation strategy and the resulting innovation projects have been specifically focused on gaining the knowledge and experience in both the methods and technologies that can deliver flexibility as part of the transition from DNO to DSO. We have already delivered some of this learning into the business, providing cheaper, quicker and more efficient connections to customers. We have an excellent grasp of future challenges and have plans in place to transfer innovation project learning into business solutions and customer propositions;

- We believe that the majority of flexibility will be embedded within the distribution network and the distribution network capabilities need to be appropriate to ensure optimum operation of the network.
- By focussing on local solutions to deliver the required whole system outcomes going forward in an effective and efficient way this will best protect customers from the risk of stranded investment (or unnecessary investment);
- Our strategy of focusing our DSO advanced network management in this way, especially in congested locations, will provide direct benefits to customers and facilitate access to both DSO and SO flexibility markets;
- We are carrying out strategic studies assessing a range of scenarios to give visibility of likely strategic reinforcements and the opportunities to provide services to avoid or defer these investments. The scenarios cover the period to 2030 and will be updated for each of our licenced areas on a 2 yearly rolling program; and
- As a result of these studies we believe that further benefits can be achieved where the DSO takes on an enhanced regional responsibility, supporting regional transmission network using this embedded flexibility to deliver whole system solutions.

To support this and continue our transition to DSO from DNO we have already established additional DSO enabling priorities to:

- Expand the existing roll out and application of Active Network Management (ANM) to the higher voltage networks, prioritising areas that are the most likely to benefit. From this we can optimise investment decisions, deliver greater network flexibility and maximise customer connection choice;
- Protect the integrity and safety of lower voltage networks. We will be looking to maximise the use of smart meter data, apply additional network sensing as required and implement simple control schemes. We aim to develop wider flexibility for the use of import/export capping as an alternative to conventional solutions - only reinforcing the networks when these solutions cannot deliver what is required; and
- Co-ordinate with the SO by helping to establish visibility platforms for suppliers, aggregators and customers to allow the development of flexibility services shared between DSO and SO. This will include the requirement to raise the awareness of Demand Side Response (DSR) and to help customers to value stack where appropriate.

Our responses to the questions raised in the consultation are attached. If you require any further information or detail around any of the contents of this letter or attachment please feel free to contact me at nturvey@westernpower.co.uk.

Yours sincerely

Nigel Turvey
Network Strategy and Innovation Manager

Chapter: Two

Question 1: What are your views on our proposed objectives for the SO (set out in paragraph 2.1)?

The changing electricity sector has already seen significant volumes of distributed generation connected, particularly within the distribution network voltages. The volumes of DER and trends of new low carbon technologies (heat pumps, electric vehicles, energy storage etc) mean that the increases in variability and volatility experienced on the networks will require a move from passive operation to advanced network management. WPD has already re-engineered parts of their network to facilitate this, with a strategy to have complete coverage by 2021.

Flexibility on the electricity system will be provided by three main sources

- Transmission connected DER
- Distribution network provided services
- Distribution connected DER

As the majority of future flexibility will come from the distribution network (e.g. auto load transfer, meshing, dynamic rating, voltage reduction, CLASS type services) and distribution connected energy resources, coordination of this will be required to ensure that distribution network capability is not exceeded by use of these resources. In many cases, the “on-network” flexibility options will be lower cost than customer provided DSR. The DSO will be best placed to understand the impacts of commercial arrangements with distribution connected DER on distribution network capacity and ensure the best balance is achieved to deliver whole system outcomes. The DSO will be able to prioritise the usage of least-cost distribution network provided services over commercial DSR and offer these services up to the SO.

Visibility of planned SO actions using distribution connected resources is needed by DSOs so that issues or limitations to use can be highlighted to ensure continued system reliability and manage the risk of commercial conflicts on the system.

Hence, we believe that the first objective needs to be modified to ensure that the SO works in combination with the DSO to deliver whole system benefits ensuring that these can be delivered by the DSO where cost effective as part of delivering whole system solutions.

Question 2: What are your views on our expectations for how the SO should seek to achieve these objectives?

The DSO is an important facilitator of the SO achieving their objectives. Close working with and allowing the DSO to deliver the flexibility required at the boundary between the DSO and SO will be an important part of delivering a cost effective network as this flexibility will need to be delivered taking account of constraints on the distribution network.

The recent changes in the composition of the UKs generation fleet and the future uncertainties in low carbon technology deployment mean that there is an increasing impetus for network operators to adapt in order to develop and maintain networks of the future. Distribution networks have led the way in the transition and with more flexibility being “grown” on the lower voltage levels requires a whole system view to ensure customers retain value for money. The deeper into the network the flexibility resource is placed, the greater the number of constraints it may feed into and the greater the number of revenue streams it may be able to access. However greater coordination will be required to ensure conflicts of services are managed in respect of the whole system. Distribution operators will be best

placed to ensure that the services connecting to their networks can be made available to the transmission and system operators.

WPD has worked closely with National Grid Transmission Operator and SO teams over several years. We jointly developed the Inter-Control Centre Communications Protocol (ICCP) link between DNO and National Grid control rooms through a Low Carbon Network Fund (LCNF) project in 2011. This link has been used by other DNO innovation projects and forms the basis of planned inter-system data sharing/constraint management in South Wales and South West England. Customer connection offers, which depend on this collaboration, have already been accepted by customers.

We are also currently working with National Grid SO on a Regional Development Plan for the South West. The aim of this plan is to redefine network limits to release capacity by developing enhanced network data and models, improved Distributed Energy Resource (DER) control and the implementation of enhanced operability schemes. This will include developing a process to allow efficient decision making between transmission, distribution or service solutions that cater for the capacity limits expected when applying our long term scenarios in the growth of Distributed Generation (DG) and demand.

All our Innovation Projects involving Demand Side Response have been carried out with the involvement of National Grid. FALCON was the first LCNF project to report on the importance of revenue stacking for customers. Project SYNC was operated in parallel with the SO's Demand Turn Up (DTU) service during the summer of 2016. SYNC has again confirmed the value of coordinating SO and DSO actions. The DTU service will be used again in 2017 to reduce summer generation local constraints as well as assisting with system balancing.

Project ENTIRE is establishing a core WPD capability in DSR. The necessary forecasting, contracting, despatch, metering and settlement functions will be developed while alleviating winter demand congestion in the South-East Midlands. The project will establish a local marketing campaign to raise awareness of DSR with Industrial & Commercial customers. A value stacking service will be offered under our soon to be launched Flexible Power campaign. This will allow these services to be used by the SO whilst giving the benefit to the contracting parties of access to both DSO and SO services avoiding the exclusivity requirements of a direct contract with the SO.

Question 3: Do you agree with our proposals for what licence changes are needed to support these objectives?

The existing division of company ownership and roles and responsibilities has facilitated a strong, economic and secure network to date. It has allowed a stable base to develop complex network operations and innovative commercial markets. The UK leads the world with its independent and economic energy system.

This unique composition has enabled a range of options to be investigated and compared in an open market, facilitating issues to be solved, without jeopardising network security. This should remain a priority for the UK energy system, including the SO.

The proposed licence changes to increase separation of finances, employees, information and premises appear to support the objectives.

WPD is committed to working with the SO to facilitate these methods as they represent a challenge for the DNOs/SOs to deliver and are a significant opportunity for our customers. An important part of the DSO transition will see DNOs more actively managing networks to ensure capacity, where required, is available to customers. This may occasionally impact

upon the potential for other networks to deliver services but can be mitigated by information sharing.

Whilst not directly related to separation, a general move to greater transparency of information and data about both the current transmission network and forecast data is needed for other parties to provide services to support the objectives.

In as far as that the SO has responsibility for developing an economic transmission network; DNOs have responsibility to develop an economic distribution network. Efficient outcomes will not be delivered unless both are considered together. DNOs already publish significant information on the state of the network to customers and we look forward to developing the same information exchange with the SO.

As we transition to a more active DSO model, our ability to affect cross grid group transfers will increase, and we believe it will be in the interests of customers for DSOs to make available these services to the TSO for them to use ahead of further investment on the network. We expect the SO to provide more visibility on the flexibility requirements at each GSP that may lead to investment options being considered on the distribution network.

In WPD we are already undertaking a number of trials which allow us to provide access for customers to operate in flexibility markets. We have demonstrated co-ordination with the SO to share these services with them and will continue to do so. For distribution network issues, the overriding critical factor is location of the flexibility response and we will concentrate on giving sufficient information to the market to deliver services in areas of our network with determined needs. For transmission network issues, the economic cost and the availability of the response are the most important factors, both of which would be affected by distribution network constraints. Hence, by the DNO leading the commercial contracts with those flexibility services, we will ensure the services offered to the SO are available to operate and not be artificially inflated in the market due to service conflicts.

Question 4: What are your views on the extent to which we should set specific or general obligations for the SO?

There needs to be overall obligations set in the licence, specific obligations (e.g. content of information released) can be contained with separate standalone documents that do not need licence changes as they are enhanced. Moving directly to a defined set of specific obligations could make the licence too rigid to allow flexibility in approaches to be developed in the required timescales.

Chapter: Three

Question 1: Do you agree that greater separation between NG's SO functions and the rest of the group is needed?

The unbundled system operating in the UK enables competition and drives efficiency. Ensuring that the structure of the system not only facilitates further competition, but also embeds openness and transparency of decisions will give the customer and other stakeholders confidence that the system is working in their best interests.

The maturity of the existing system can allow for greater unbundling to ensure this transparency and accessibility is maintained and separation of the system operator from the transmission operator will further this.

Whilst understanding the potential conflicts of interest and hence concerns raised, we are not aware that there is any evidence that these have materialised in practice. However, given the perception we agree that greater separation is needed to allay concerns raised.

Question 2: What are your views on the additional separation measures we are proposing?

National Grid's unique position of operating the SO and other TNO functions has enabled it to maintain a system with unparalleled security and provided the space to foster roles for an economic, unbundled market. Now the roles are permanently established, it is clear that some of the activities may be undertaken more efficiently by third parties. Up until now, the conflict mitigation measures put in place by the regulator has been effective. Greater separation would give customers and other stakeholders the confidence that all actions undertaken for the SO by National Grid's other functions would be transparent.

The separation proposed appears to address the concerns raised. We agree that in the long term that this is likely to lead to a fully independent ISO, though recognise the benefits of a slower transition whilst the other areas of the electricity sector mature.

Question 3: What are your views on our proposed approach for implementing these changes?

The proposed approach via separately licencing the SO function and enhancing the ring fencing of functions appears to be appropriate.

Within the consultation documents, it is acknowledged that although facilitating further competition may have short term increased costs, over a longer term, it is important that the customer and other stakeholders have the confidence that the system is being delivered transparently in an economic manner.

Chapter: Four

Question1: What are your thoughts on our proposed approach for implementing the proposed changes set out in this consultation?

The proposed approach and timescales appear reasonable.

Question 2: What further evidence should we consider in finalising our impact assessment of the proposals on the SO's roles and level of independence?

We consider that this review of future arrangements allows all interested parties and market participants to express their views and present evidence. We have no additional comments to make.