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Dear Greg and David,

Covering Letter for A Smart, Flexible Energy System – Call for Evidence

I am pleased to see that the Government and Ofgem have released this Call for Evidence, providing stakeholders with an opportunity to inform their thinking at a critical time of change in the energy sector.

This is no longer a theoretical debate as the transition to a smart, flexible system is already underway on our SP Distribution and SP Manweb networks areas. We now have more than 3GW[1] of distributed generation connected to our networks with a further 3GW[2] contracted to connect. In many cases, we are connecting in areas with low levels of local electricity demand raising additional challenges versus high demand areas where local generation can be absorbed more easily. These challenges have led us to focus on innovative solutions that ultimately seek to maximise the existing assets that we own and operate, minimising costs to our connecting customers and supporting faster connection of low carbon renewable generation. This innovative approach has been widely supported by developers operating in our areas and they have highlighted the uniqueness of our approach in the UK.

[1] SP Distribution 1.7GW connected, SP Manweb 1.6GW connected
[2] SP Distribution 2.1 GW contracted, SP Manweb 1.2GW contracted

Our innovation projects have made it possible to connect over 100MW of generation through Active Network Management that would otherwise have been unable to connect until 2023, resulting in customer and wider societal benefits of £18m. We also have a further 1.3GW of accepted flexible connection offers. To date this has been possible through innovation mechanisms, focused customer service and very limiting (De Minimis) mechanisms within the distribution price control. To fully realise a smart, flexible energy system, a more complete review of system charging will be required to ensure that network operators have a sustainable commercial framework to ensure that smart solutions become business as usual options for all GB customers and developers.

As well as the commercial and technical challenges there are some very critical practical areas that have to be recognised and agreed.

At the heart of any smart, flexible system will be a robust, reliable and more fully integrated communications network. This will inevitably lead to an increase in operating costs for network companies when compared with the communication infrastructure that they currently employ.

It is essential that we maintain our focus on providing security of supply to existing and future customers. This will be especially challenging given the closure of large scale thermal plant across the UK. We will need new and innovative approaches to ensure that the changing mix of generation can contribute to system recovery actions following a potential high impact, low probability black start event. In addition, we must consider the threat to system security from cyber security. Traditionally, electrical networks were protected through their isolation from standard communication channels. Any smart network will inherently be highly integrated and the potential risk to the economy of a successful cyber-attack should be quantified and mitigated.

The growth in de-centralised energy does not reduce the need for an interconnected transmission network. Local system balancing in many cases will still result in geographical and network areas of net export or net import, only by balancing these areas on a national level will we maintain a high level of system security and quality of supply. An example of this is our Dumfries and Galloway network area which we are planning to trial as a DSO enabled network area. The Dumfries and Galloway area has a local peak demand of 190MW, with 340MW of connected distributed generation and a further 660MW contracted to connect. Whilst we believe we can facilitate the majority of the contracted generation in this area through real time network monitoring and control, no smart solution will preclude the requirement for transmission interconnection.

This call for evidence highlights the potential network benefits of storage technologies, and whilst I agree that storage could resolve a range of network issues, it must be considered alongside other flexible network solutions. Where storage does indeed provide the lowest overall lifecycle cost solution, it should be employed primarily through an open market approach. There may be instances however, where there is insufficient market incentive for developers to install network storage on the network, in this instance transmission and distribution network operators should be able to own and operate storage. Where network operators own and operate storage it will be for the purpose of running a reliable network at lowest cost to customers. We will not seek to participate in energy trading markets such as arbitrage and in the event that DNO owned storage provides an opportunity to act on participate in energy trading markets we will agree commercial terms with a third party operator to do so.

The recent independent review of the Low Carbon Network Funding[3] identified £800m to £1.2bn net benefits created to date through the innovation mechanisms available to network operators. The potential for even greater benefits was highlighted in Ofgem's network innovation review

[3] https://www.ofgem.gov.uk/system/files/docs/2016/11/evaluation_of_the_lcnf_0.pdf

consultation[4]. Now is not the time to amend an innovation mechanism that has demonstrated its value and supported the developments that have given us great insight into a smarter system.

The evolution of the energy sector towards a smarter system will be simpler, faster and cost effective if Distribution Network Operator's (DNOs) play an active coordinating role between all market participants, facilitating the markets and services in a neutral and non-discriminatory manner. This can be achieved by extending the current role of DNOs to that of Distribution System Operators (DSOs). An effective DSO model will reduce system balancing costs, whilst enabling the flexible networks necessary to facilitate customer's use of low carbon technologies. It is my view that DNOs should carry out this coordinating role as we have the infrastructure, information and experience of running a local network and as outlined we have also started to carry out local system balancing via Active Network Management. DNOs are also best placed to do so whilst maintaining their primary roles of ensuring a safe and reliable system.

However, I recognise there are different views on who should operate the DSO. It may be appropriate to revisit the responsibility for providing DSO services in the future when this model has reached a mature stage, but in the early stages of this transition DNOs are most likely to deliver a successful DSO model that facilities efficient and faster delivery of a smarter system.

In October of 2016 we published Our DSO Vision[5], which was developed collaboratively with key industry stakeholders including local government[6], National Grid and a range of industry parties at the heart of the DNO to DSO transition. Our DSO Vision seeks to facilitate an open and inclusive market for communities, aggregators, storage developers, and existing providers of network balancing services. In 2017, we will build on our vision document to develop a more detailed route map, identifying in detail the technical, commercial and regulatory actions required to realise our ambition of becoming a DSO. We will also work with customers, Government and industry to ensure that the model of a DSO for the UK is aligned, to the extent that regional and network differences allow.

In summary, the DNO to DSO transition is a key enabler for an efficient and effective low carbon network in the UK, to achieve this it is essential that we have a coordinated and supportive regulatory regime. It is also my view that the DSO model outlined in our DSO vision document best meets the current needs of our customers and wider stakeholders, whilst providing the greatest flexibility to meet the future requirements of energy users in the UK.

Yours Sincerely

Frank Mitchell
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[4] https://www.ofgem.gov.uk/system/files/docs/2016/12/innovation_review_consultation_final.pdf
[5] http://www.spenergynetworks.co.uk/userfiles/file/SPEN%20DSO%20Vision%20210116.pdf
[6] Damon Hewlett - Grid, Regulation & Generation Policy, Energy Markets advisory member - SPEN DSO Steering Group