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Date
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Dear Neil,

Reviewing the benefits of the Low Carbon Networks Fund and the governance of the Network Innovation Competition and the Network Innovation Allowance

SP Energy Networks (SPEN) is the networks business of Scottish Power and holds three electricity network licences. We own and operate the electricity distribution networks in the Central Belt and South of Scotland (SP Distribution) which serves two million customers, and Merseyside and North Wales (SP Manweb) which serves one and a half million customers. We also own and maintain the electricity transmission network in the Central Belt and South of Scotland (SP Transmission), although this is operated by National Grid, in its role as the National Electricity Transmission System Operator¹ of Great Britain.

We were successful in securing two NIC Bid projects in 2015:-

- **ANGLE-DC** – This project aims to demonstrate a novel network reinforcement technique by converting an existing 33kV AC circuit to DC operation. Awarded £13.1m in NIC funding.
- **FITNESS** – This project aims to deliver the pilot GB live multi-vendor digital substation instrumentation system to protect, monitor and control the transmission network using digital communication over fibre to replace copper hardwiring, reducing cost, risk and environmental impact, and increasing flexibility, controllability and availability. Awarded £8.3m in NIC funding.

In addition we have a wide range of innovation projects that were instigated under the LCN mechanisms and have been utilising our NIA allowance to address network specific issues developing solutions which can be adopted by all UK DNOs.

Question 1: Should we change the NIC and NIA criteria? If so how and why?

It is SP Energy Networks (SPEN) view that the current NIC and NIA criteria are suitable for ensuring that innovation projects provide benefits to UK customers and address key challenges that UK network operators are facing.

¹ The System Operator-Transmission Owner Code (STC) defines the relationship between the Transmission System Owners and National Grid as the National Electricity Transmission System Operator (NETSO).

Question 2: Should we give more of an indication of where we consider innovation is required or is that inappropriate?

Network Licensees are currently best placed to identify the current and future challenges that they expect to face on their networks and should not be restricted to the areas in which they pursue innovation as long as it will provide overall benefits to customers. With that said there would be merit in an Ofgem/DECC view of strategic innovation that could help to drive towards common goals and address common industry issues. This should be informed by Licensees and wider industry representatives

Question 3: Should the focus of the NIC and NIA be broader and cover the broader energy system?

The NIC and NIA funding mechanisms should remain focused on issues and challenges that can be solved and implemented on Licensee networks to ensure that benefits are realised. This does not preclude projects from identifying wider energy system benefits or sharing the learning of these projects with wider energy system operators, where that learning could also benefit UK customers.

Question 4: Can we improve the process for deciding on which projects to approve and if so how?

The approval process for the NIC bids is robust in our view however bearing in mind our response to Question 2 it may be beneficial for Ofgem to have a view of strategic innovation for the industry. This would provide an informed view of where NIC bids align with the solutions required by the industry. This should not preclude valid innovation projects which do not directly align with identified long term industry strategies.

Question 5: How can we improve participation in the NIC?

SPEN has not found it difficult to secure participation from industry partners, as we have worked in conjunction with partners in developing our NIC bids. One option that could be considered is an extension between the submission of the ISP documentation and the Full NIC bid submission. The current timeline drives Licensees to negotiate with and secure partners before the submission of the ISP stage and could potentially preclude interested parties from offering their services as alternative partners.

Question 6: Please comment on your experiences if you have worked with licensees when implementing NIC and NIA projects or when transferring innovation into business as usual.

Our experience has been that involving and working with the correct licensees has a positive impact on the success of innovation projects.

Working with licensees is also key to understand the findings and challenges associated with transferring innovation into business as usual. A good example of this is ENWL CLASS project where in addition to the dissemination events ENWL have started a DNO teleconference to assist in transferring the learning from their project to other licensees.

Question 7: Are there any other issues we and the independent evaluator should consider as part of the review?

When evaluating the success of Innovation incentive mechanisms it is also key to consider the potential savings that innovation to date will have on the future expenditure of DNOs. The cost

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benefit analysis of NIC and NIA projects is based on the asset lifecycle of associated investments therefore the potential benefits used to evaluate the effectiveness of innovation funding should be over this timescale.

It is also worth considering the Innovation mechanisms alongside the Network Losses Incentive mechanism and how the two mechanisms interact. In particular Industry and Government thinking is starting to focus on greater system utilisation as a solution for future challenges and the level of uncertainty. This higher level of utilisation will reduce the level of capital investment required and ultimately how much UK customers pay for their energy requirements. Unfortunately higher system utilisation is likely to have an adverse impact of system losses, therefore the interaction of these two mechanisms should play a part in the independent evaluators review.

Question 8: To what extent do you consider that the LCN Fund has succeeded?

In the RIIO-ED1 outcome the UK DNOs have accepted an additional efficiency challenge from Ofgem of £223m (Post CMA appeal), £92m of which is attributable to SP Energy Networks. This was on top of business plan submissions that already contained £683m of efficiency through innovation. In addition any efficiency generated through the rollout of innovation is shared with DUoS customers through the Information Quality Incentive Sharing Mechanism. Given that the industry has invested ~£400m through the LCNF and IFI innovation mechanisms since 2005 this would suggest that Low Carbon Network funding has been a success for UK customers.

This overall impact does not highlight the benefits to individual customers or on the development of technology within the UK. For example our Flexible Networks and Accelerated Renewable Connections (ARC) project has allowed customers to connect to our network in constrained network areas. Without innovation funding to develop new and alternative solutions, these connections would have been prohibitively expensive or would have been delayed for several years awaiting the completion of reinforcement works on the Transmission system.

Question 9: To what extent do we need to continue incentivising innovation by DNOs?

Prior to the LCNF and subsequent NIC/NIA funding mechanisms there was little incentive for Licensees to invest in Innovative solutions that were potentially higher risk/cost than traditional solutions. The price review mechanisms favored efficient expenditure on existing programmes of work and therefore Licensees did not invest in innovation.

In addition the Electricity Distribution sector is entering a period of considerable uncertainty around the rollout of Low carbon technologies, requiring a much greater level of local control and monitoring on the distribution network. To address this uncertainty the industry will need continued innovation by Licensees and industry partners. This approach of incentivizing innovation has been successful through the LCNF mechanism and has already provided benefits to UK customers. This need for innovation funding in the energy section has also been Energy Secretary Amber Rudd.

Yours Sincerely



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