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Dear Olivia,

Introduction

Thank you for providing the opportunity to respond to this discussion paper on *'Quicker and more efficient distribution connections'* issued on 19 February 2015. Within this document we set out our position as Highlands and Islands Enterprise (HIE).

Highlands and Islands Enterprise (HIE) is the Scottish Government's agency responsible for economic and community development across the North and West of Scotland and the islands.

HIE along with its local partners: the democratically elected local authorities covering the north of Scotland and the islands: Shetland Islands Council, Orkney Islands Council, Comhairle nan Eilean Siar, Highland Council, Argyll & Bute Council and Moray Council make representations to key participants on behalf of industry to influence the way in which grid construction is triggered, underwritten then accessed and charged for in the region.

HIE would like to outline its appreciation for Ofgem considering the approach to arrangements for distributed generation connections. This is a major issue for prospective projects in the HIE region and any arrangements to support further integration of renewables to the grid are welcome. We hope this is the start of a fruitful process of discussion between Ofgem and industry which will result in some useful outcomes.

We appreciate that the proposed scenarios take into account both demand and generation connections, however our response will focus on the connection of distributed generation customers only.

We hope that our response provides some useful points for consideration and we would be happy to discuss the response with Ofgem and the wider industry.

Reinforcement of DNO networks is an important issue for renewable energy developers in the north of Scotland, but it does not address the full picture. In Scotland, the boundary between distribution and transmission is relatively shallow – at 33kV grid supply points. This is compared to England and Wales, where the interface is at 132kV grid supply points. Often, in the north of Scotland, connection

timeframes are driven by reinforcements at 132kV (transmission). As such, any distribution reinforcements accelerated through the scenarios set out in the discussion paper should be aligned to available capacity on the transmission network. Further, in scenarios where the transmission reinforcements are not a barrier, very often it is then the distribution connection works rather than the distribution reinforcement works that drive the connection timing.

Nonetheless, HIE would like to lodge its support for, and would like to encourage, further industry engagement on a review of DNO investment decisions and processes. We believe that implementing a strategic approach to network investment is a clear policy goal for building and maintaining efficient distribution networks. However, the strategic view needs to encompass all elements of connections and should not be focused on discrete aspects.

General comments regarding anticipatory reinforcement

We consider that there is a clear risk with scenarios 1, 2 and 3 that anticipatory investment may actually hinder connections. It is clear with scenarios 1 and 2 that there is a need for either the DNO to satisfy itself (or satisfy Ofgem under the RAV Buyback model) of the merits of any anticipatory investment – such processes tend to add time and uncertainty to connections.

Responses to consultation questions

Scenario 1: DUoS funded Anticipatory Investment, no initial connection

Many projects in the north of Scotland, particularly community energy schemes, are blocked by prohibitively high connection costs. HIE is aware of at least 11 projects currently receiving funding through the Community and Renewable Energy Scheme (CARES), for which HIE is a key stakeholder, that are being held up specifically due to high costs. Anticipatory investment performed by the DNO is therefore an opportunity to unblock some of these schemes. Further, given the high level of socialised reinforcement costs, we believe that there are potential benefits to DUoS paying customers of upgrading the network strategically in order to minimize investment cost by avoiding piecemeal approach to network upgrades.

Q1. Would a DNO be sufficiently confident about future connections demand and the benefits to DUoS customers to justify this approach? If so, in which circumstances?

HIE acknowledges that it can be difficult to accurately forecast the level of generation that is due to connect to a certain area of the network but considers that this could be achieved with increased levels of customer engagement and the inclusion of project milestones.

However, in our experience, DNOs are not willing to commit finances to network reinforcements until a customer has signed a distribution connection offer and placed a deposit. Even then, DNOs are incentivised to be risk-averse when investing in system reinforcements. Therefore, given the current state of the industry, it is difficult to see what information or assurances the DNOs could provide to advance reinforcements ahead of signature of connections offers and payment of deposits.

It would be crucial to identify what information DNOs would require from generators in order to have confidence that a reinforced network would be utilised. HIE considers that the level of current interest from prospective generators should be a good indicator to DNOs although it understands that more substantive evidence may be required. HIE would therefore encourage more communication between DNOs and prospective distributed generation customers. HIE notes that projects who receive funding under CARES are automatically flagged up to the relevant DNO who undertake a short assessment of the connection as an initial indicator to projects. HIE has had positive feedback on this process and suggests that it could be replicated elsewhere.

A key driver that dictates the volume and location of deployment of distributed generation is government policy alongside local and national planning guidance and decisions. There is a key misalignment between these and the grid connection process. We believe that further, more strategic engagement between the DNOs and planning and consenting bodies would go a long way to enabling strategic network planning and justifying anticipatory investment.

If DNOs were able to establish an anticipated level of generation due to connect to an area, they could undertake a cost-benefit analysis to demonstrate the potential cost savings of reinforcing the network as a whole rather than the traditional piecemeal approach.

Q2. What other barriers are there to DNOs taking this approach? How might these be overcome?

The most obvious barrier to this approach from a DNO's perspective is the risk of stranded asset that it takes on by undertaking anticipatory investment. As the assets are not being efficiently utilised, this could lead to lost revenue under the RIIO-ED1 framework. The under-utilisation of reinforced network could also lead to increased costs for distribution customers. We believe that this is a key barrier to the implementation of any investment made at risk by the DNOs.

Scenario 2: DUoS funded Anticipatory Investment, upon initial connection

Q3. What are your views on this type of approach and the RAV Buyback Model? Are there any elements which are essential, not required or should be changed – and why?

HIE considers that this scenario is not dissimilar to Scenario 1 above, albeit with a different method of paying back the cost of reinforcement and the reinforcement being triggered by an initial customer. The barriers facing the DNO under this scenario are similar to Scenario 1.

HIE considers that a RAV Buyback Model could work, as latter connectees will be making use of the assets already in place and will contribute towards their repayment upon connection. HIE, however, has a number of concerns over other aspects of this scenario. As the implementation of this RAV Buyback Model would require a DNO to provide "robust" evidence to Ofgem to justify the reinforcement, it may actually delay the connection of the original applicant's project beyond the time it would be due to connect under the current system.

Q4. Please give details of any projects or schemes this type of arrangement could have helped progress which would have not otherwise gone ahead?

HIE is aware of some 77 projects throughout Scotland that are experiencing issues related to grid connection. Although a number of these projects are being held up for reasons that may not be alleviated by this type of arrangement being in place, such as transmission constraints, it shows the level of potential generation that is having difficulty connecting to the network. A list of these projects is attached along with this response.

Q5. What would justify requiring subsequent connection customers to only be able to connect to the new, enhanced part of the network?

This scenario also proposes that new customer connections within a defined area would then be required to connect to the enhanced network. We do not consider it appropriate to obligate connection customers to connect only to a defined part of the network. HIE believes that this is at odds with the Electricity Act which requires DNOs to offer the least cost, technically feasible option to new connections.

However, HIE would also point out that it is likely that a coordinated solution to facilitate connections, although it may not represent the least cost solution for individual customers, is likely to represent the least cost solution for the network as a whole.

Q6. What would justify a DNO charging a premium to subsequent connection customers to reimburse DUoS customers for the risk they bear in funding this work? What might be the impact of this? How should the premium be calculated?

HIE does not consider that projects connecting to the reinforced network should be charged a premium. In the case of works undertaken under the RAV buyback model, the reinforcement would have to be approved by Ofgem based on robust evidence provided by the DNO. HIE believes that the risk taken in funding the work should therefore be fully quantified and as such should not require premiums to be paid by subsequent connectees.

Q9. Do you consider that this approach would have any implications on competition in connections?

The focus of this consultation is on system reinforcement – which tends to be non-contestable works. Therefore, there is likely to be a relatively small impact on competition in connections.

Scenario 3: Customer funded Anticipatory Investment, upon initial connection

HIE considers that this solution is not likely to be effective in providing quicker, more efficient connections for distributed generators. We do not see what incentive there would be for a distributed generator to make unnecessary investment in the distribution network. This scenario would mean that prospective projects are dependent on third parties to fund work or would have to provide funds for the works themselves which would likely be prohibitive for smaller generators. This approach would also introduce further complexity to the connections process and it is not clear how the reinforced works would interface with the wider distribution network.

Scenario 4: Other ways of making it easier to connect

4.1 Reducing the need for reinforcement via network management

HIE believes that utilisation of active network management could allow for much more distributed generation to be connected to the network without the need for major reinforcement. HIE notes that such schemes are already in place in Scotland, notably on Shetland as part of the NINES project, and this has allowed increased levels of renewable generation integration.

Q17. What role, if any, could changes to engineering standards play in helping to accelerate the connections process without damaging reliability levels? In what circumstances would this be appropriate?

Changes to the engineering standards would provide DNOs with greater flexibility to implement network management schemes on their networks. These schemes could create significant headroom on networks and allow connections that are currently held up by pending reinforcements to make use of this “available” capacity. Changing the standards could also encourage innovative use of existing and new technologies, with the aim of creating a more efficient distribution network.

Q18. Which particular standards might most benefit the connections process if changed?

HIE considers that this subject is broad and should be considered as a discrete subject/consultation in its own right. DNOs are exposed to all manner of technical standards and conventions (e.g. ESQCR, Distribution Code, Engineering Recommendations) as well as internal design policies. The specific impact of these policies on connections can be difficult to interpret on a connection by connection basis. However, we consider that there are many anecdotal examples of intransigent behavior by DNOs that are blamed on system standards and design policies.

4.2 Reducing the need for reinforcement by managing connection offers

Q19. What benefits might the introduction of assessment and design fees bring?

Introducing assessment and design fees would obviously have the effect of reducing the number of speculative applications submitted to DNOs, although HIE would be wary of the effect of these types of fees on small generators. Depending on the level of the assessment and design fees, community-level generators may view this as prohibitive, which could prevent these types of generators from pursuing a connection at all, despite the benefits it could provide in the long term.

Q20. Could more flexibility in the way assumed available capacity is calculated help accelerate the connections process? Are there any other improvements to be made in how DNOs manage interactivity between schemes looking to connect to the same part of the network?

We believe that the determination of available capacity is tied closely with points made above regarding design standards. Flexibility and transparency in assessing available network capacity is important and HIE supports further discussion on this.

An example of assessment process improvement could be the use of historical data to identify relationships between the production of different types of generators (wind, solar, hydro etc.) and use this to calculate available capacity on the network. This could allow certain types of generators to connect to the network quicker under the assumption that their output will be in line with similar generators.

Q21. When might it be reasonable to withdraw capacity it has previously offered to customers?

A project who has secured capacity should be granted every opportunity to connect as scheduled. However, it is important that there are key milestones set out in the connection offer to ensure that projects are running to programme. We note that these ‘progression clauses’ are now commonplace in connection offers. We welcome an increased level of customer interaction with the DNO, which should allow the status of projects to be regularly updated and any changes required to dates to be made well in advance of the original connection date to allow the DNO to manage its network effectively. HIE also notes that it is difficult for DNOs to withdraw capacity from customers and would be keen to see proposals on how this could be handled in the future.

4.3 Flexible terms for the recovery of connection charges

Q23. What would justify a DNO offering more flexible terms for connection charges? What might be the impact of this?

An increase in the number of small generators seeking connection could be seen if flexible terms were available for connection charges. Flexible terms for connection charges may allow viable projects unable to gain finance to connect to the network and pay off their charges over the lifetime of the project. Although a project may not have access to finance in order to pay off the costs upfront, it may be able to provide security to the DNO if it is sufficiently confident of the connection and pay off the assets after connection, similar to the arrangements at transmission.

Q24. What type of schemes would most benefit from this arrangement?

Community owned and smaller projects would benefit from this arrangement, particularly in areas where deeper network reinforcements are required.

Q25. What could be done to protect other customers from picking up any costs which cannot be recovered from the original connection customer?

At transmission, generators are liable for system reinforcements pre-connection. These liabilities mitigate the risk of stranded investment being sunk.

Q26. Are there any other measures that would reduce the cost impact of connecting to the network?

HIE believes that moving to a shallow charging boundary could help reduce the cost for connections in northern Scotland. HIE notes that the Voltage Rule achieves this to some extent but even with this in place, the costs for some connections are prohibitive. A shallow charging boundary would also recognise that deeper network reinforcements are beneficial to all customers connected or due to connect to that part of the network and as such the costs should be socialised accordingly.

Summary and next steps

Q27. Which of the arrangements described above would deliver the greatest benefit to the connections process without placing additional risk or cost on the generality of customers, and why?

HIE believes that further utilisation of active network management and flexibility in determining network capacity set out in Scenario 4 would provide the greatest benefit for prospective connections with the smallest associated cost. HIE recognises, however, that there are areas of the network which will already be at the limit of capacity, even after utilisation of innovative network management. In these cases, HIE believes that increased customer engagement with the DNO can provide it with an indicative level of anticipated generation interest and allow the DNO to plan its reinforcements in line with this. HIE believes Scenario 1 provides the best solution for undertaking anticipatory investment at the distribution level.

Q28. Should wider benefits beyond energy system benefits (such as those provided by NTBMs) be taken account of in DNOs' or third parties' considerations of any of the measures or mechanisms described in this paper?

Yes, these benefits should be considered. HIE believes that in addition to the energy system benefits of these mechanisms, the development of quicker distribution connections would allow increased integration of renewable energy, increased competition in the electricity market and social benefits (financial, health, etc.).

Yours sincerely,

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In partnership with:
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