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Date
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Dear Akshay

Open letter on future reform to the electricity connections process

SP Energy Networks (SPEN) represents the distribution licensees of SP Distribution plc (SPD) and SP Manweb plc (SPM) and the transmission licensee SP Transmission plc (SPT). We own and operate the electricity distribution networks in the Central Belt and South of Scotland (SPD) which serves two million customers, and Merseyside and North Wales (SPM) which serves one and a half million customers. We also own and maintain the electricity transmission network in Central and South Scotland (SPT). As an owner of both transmission and distribution network assets, we are subject to the RIIO price control framework and must ensure that we develop an economic, efficient and coordinated onshore electricity system.

We welcome the opportunity to respond to Ofgem's open letter on future reform to the electricity connections process. This response provides SPEN's views on the necessary reforms to the connections process for both distribution and transmission networks.

Challenges with the Current Network

Electricity networks are active enablers of the Net Zero transition and the British economy. GB network companies are at the forefront of the decarbonisation of the energy sector. As of the date of this letter, the ESO TEC register shows almost 397GW of contracted and installed transmission capacity, with the contracted pipeline continuing to grow on a daily basis nationally, with connection dates ranging from 2025-2037. This contracted generation is well in excess of maximum winter peak demand across the UK of 58.3GW and also in excess of all of the Electricity System Operator's (ESO) 2022 Future Energy Scenarios' (FES) range of 123-147GW required for Net Zero pathway to compliance.

To date, network regulation has placed a high burden of proof on network companies to demonstrate a need for strategic investment or anticipatory investment, ahead of network need, to avoid the risk of stranded investment in network infrastructure. Industry policies such as 'Connect and Manage', the Networks Options Assessment (NOA) and supporting FES have cemented the approach of investing and reinforcing the network at the time of need, rather than adopting a strategic and anticipatory investment approach to stimulate investment in anticipation of future network use, more consistent with the upwards trajectory of customers seeking to connect Low Carbon Technologies ("LCTs"). These regulatory approaches have constrained investment to the point that today major reinforcement of the transmission and distribution networks is needed quickly to allow LCTs to connect on a timely basis.

We recognise there is a connections challenge and immediate reform is needed to support our customers and the delivery of Net Zero ambitions. It is also important that the GB system is able to

deliver a Net Zero-ready system in a sustainable way, making best use of the resources that the UK has to hand. In light of this, SPEN has been calling for strategic reform of the connections process for some years now that can be a catalyst for economic growth whilst ensuring that customers bills are not disproportionately impacted.

Challenges with the Current Connections Process

It is widely recognised that the long-established connections process is no longer able to manage the significant increase in applications for connecting to the network. We believe the main challenges with the current connections process fall into four main categories, which we set out below. With our technical expertise, network operators like SPEN are well placed to propose innovative and practical solutions to these challenges.

i. Increasing penetration of Domestic Low Carbon Technologies (Distribution Network)

To achieve Net Zero targets, a large percentage of GB's 30m domestic customers will need to charge their Electric Vehicles (EVs) at home and/or convert their heating systems to electric heat pumps. A key challenge for us remains ensuring and maintaining the safety standards required across our network where network equipment in customers' homes will need to be assessed and potentially upgraded. The forecast electrification of domestic heat and transport means household demand could triple, in the absence of intervention leading to overloading the electrical cables connecting their homes to the grid. As a result, we are required to undertake interventions that are 50 times higher than what we have conducted in the last 5 years.

ii. Time to Connect New Large Scale EV Charging Hubs (Distribution Network)

As the penetration of EVs increases and we approach deadlines banning the sale of new petrol/diesel vehicles, there will need to be sufficient charging infrastructure to allow customers to transition. This will include Local Authority facilities, Motorway Service Associations (MSAs) and large garage forecourts where rapid / ultra-rapid hubs are being asked to be connected. At MSAs this will typically require new Primary Substations whilst even for relatively small garage forecourts this could require new 11kV substations. New customers have limited appreciation of the timescales or dependencies involved in network companies delivering new infrastructure, or dependencies on Independent Connection Providers/Independent Distribution Network Operators with which they have contracted. SPEN has committed to establishing a team to assist our Local Authorities with their decarbonisation plans, including selection of the most cost effective and deliverable EV charging hubs. SPEN's rapid charging hub customer forums are proposed to be delivered this year to help developers understand critical path activities and key dependencies on other parties.

iii. Coordinating large scale new generation (Transmission Network)

The ESO are of the view that only 20-30% of the projects currently contracted will ultimately be realised. The conservative policy approach endorsed by Ofgem and the ESO (via its NOA and FES) of delaying transmission network investment has not worked, resulting in significant shortfalls in transmission network capacity. Investment in transmission networks is a critical enabler to the low carbon transition and needs to progress at pace. The ESO's Holistic Network Design (HND) has forecast around £54bn[1] of strategic transmission projects within the next decade. SPEN is working hard to accelerate analysis, design, development and delivery of all of its projects identified in HND.

iv. Network Capacity Sterilisation by Industrial Scale Battery Storage Projects

More than 65GW of large-scale battery storage projects have contracted to connect to GB electricity networks in the last 18 months. These batteries are typically contracted for unrestricted network access, to maximise future market opportunities from the ESO's frequency response market. However, in SPT's case the majority of battery storage direct connections are already restricted. Whilst battery storage will play a long-term role in balancing local supply and demand,

[1] *Pathway to 2030 Holistic Network Design 2022, A Holistic Network Design for Offshore Wind | ESO (nationalgrideso.com)*

more than 70% of Grid Supply Points (GSPs) across GB are now "contractually sterilised" for additional connections >1MW, due to reserved capacity for battery storage projects. The current industry use of legislation and regulations with regards to connecting storage is a major potential blocker to the Net Zero transition and other economic growth.

SPEN is therefore leading a collaborative industry workstream (under the ENA Strategic Connections Group (SCG) and coordinating with the ESO's Connections Reform project) seeking to implement both tactical and enduring solutions to resolve this unintended consequence of existing industry regulatory and code arrangements. The intention of the proposals being developed is to change the standard industry arrangements under which industrial scale storage connect to distribution networks, in order to free up capacity for other customers to connect, to avoid unnecessary costs to the GB customer base.

Immediate Areas of Focus for Ofgem and Government

We agree with Ofgem, that *"there is an urgent need for rapid progress to address the scale of the queue and to start to bring forward connection dates for both generation and demand customers"*. Bold and radical solutions, with strong backing from both Government and Ofgem, are needed now. Recognising that in fixing the extent of the existing problem, there will be winners and losers, for parties seeking to connect to the network and that a steadfast approach to complaints that have no credible foundation will be required.

Following our attendance at the Ofgem webinar on Future Reform to the Electricity Connections Process we are encouraged to see that regulatory thinking is consistent and based on the ESO Connections Reform and ENA SCG work. However, whilst a message of support for these and incorporation into future action plans is welcome, it is imperative that Ofgem also provide leadership in signalling ambition for future enduring changes that translates into proactive action and avoids passivity. Progressive regulatory change that allows for further investment in human capital, anticipatory investment in large strategic and local enabling works, together with continued support for innovation should be regarded as the minimum provision to enable network companies to help deliver government decarbonisation targets.

(i) Facilitate an overhaul of the existing connections queue now

Across SPEN's networks, and particularly in transmission, we are seeing a contracted pipeline for connections, growing on a daily basis. SPEN's contracted transmission pipeline is currently sitting at c.37GW, with a further 5.8GW already connected. Across Scotland, the connected and contracted transmission pipeline is currently 95GW, with a winter peak demand in Scotland of 5GW.

For transmission connections, we have seen unprecedented levels of connection application 'clock starts' in the first half of 2023. We expect to have processed more application 'clock starts' by June 2023, than SPEN produced in all of 2022. We believe this influx in connection applications is a reaction to the current reform work, with developers keen to 'bag' a place in the queue now, ahead of more fundamental connection reform. With strategic reform forecast for delivery in mid to late 2025 at the earliest, we expect the influx in applications to continue for the next 2 years. The current approach of 'first come, first served' to the queue is now completely unmanageable and must be addressed now.

(ii) Timely approval of the Queue Management principles proposed in CMP376

More efficient and effective management of the current and future connections queue must be part of these reforms. The Queue Management proposals, as per CUSC Modification - CMP376 are necessary to allow for a fair and effective management of the current and future connections queue. With some customers having to wait more than 10 years for a connection, it is important that those projects 'blocking' the queue are removed, allowing 'shovel ready' projects timely access to the network. To ensure the Queue Management process is as fair and effective as possible, it requires consistent application across projects. Both new and existing projects should therefore be subject to

Queue Management clauses, ensuring no party is prejudiced by the arrangements, and that consumer and system benefits from removing stalled projects from the queue are fully realised. Whilst no process is infallible, we believe that a robust policy on this will also strengthen other industry objectives and initiatives, most notably the work being undertaken by the ENA's SCG which is examining both queues at distribution and transmission level and is looking to effect solutions with the same principle aim as CMP376 – freeing up capacity to allow for quicker connections.

(iii) Approve a time-bound derogation from existing licensed obligations in order to overhaul the existing queue now

Network design solutions are becoming more complex than ever, due to the interactivity of projects in the current 'first come, first served' connections queue. This is making it increasingly challenging for TOs to assess and design connection offers to the current licensed timescales, for both draft and finalised offers. At a time when the ESO and TOs are struggling to design and process the daily increase in increasingly complex connection applications, the TOs are also being asked to undertake wider reform work in reviewing the Current Planning Assumptions (CPAs), updating of Transmission Reinforcement Works (TRWs), facilitating TEC Amnesty applications and addressing the impact of the ESO's forthcoming BESS policy. Whilst we are supportive of the need for all of these activities, it must be recognised this wider reform work is putting significant additional workload pressures on teams, who are already struggling to manage the influx in transmission connections, to short licence connection timeframes. In order to allow this important work to be undertaken, which will determine whether some connections can be accelerated, we are proposing a short-term pause in the acceptance of connection applications which will allow for the ESO, TOs and Ofgem to streamline the current queue, ensuring a strong starting foundation, from which more fundamental connection reform can build upon.

The case for Strategic Connections Reform

Responding to the current connections challenge will require a focus from all parties on delivering the following solutions for a reformed connections process going forwards. We set out our proposals for more fundamental strategic reform below.

(i) Moving to a 'First Ready, First Served' connections process at the earliest opportunity

SPEN is supportive of the ESO's Five Point Plan as well as the work of the ENA's SCG. We believe the ESO's TM04 proposal, the most radical of the current proposals, is what is required. Having applications align with windows will not only help the ESO and TOs process the applications, but it will also bring much needed efficiencies to the system design element, whereby applications will be assessed holistically, to determine what is needed, rather than on the current project by project basis. The induction of robust Queue Management clauses is key and will move the current connections process from one of "First Come, First Served" to one of "First Ready, First Connected", ensuring that 'shovel-ready' customers are accelerated in the connections queue and offered a connection at the point at which they are ready to connect. The right to connect to the network should no longer be automatic but assessed initially against need and viability which will lead to a "right sizing" of the queue of projects. This will reduce timescales to connect and the cost to the UK consumer as the extent to which network reinforcement are subsequently required is rationalized.

(ii) Making better use of existing capacity which will include expanding non-firm and connect and manage programme, including efficient and flexible network

Alongside new infrastructure investments in our transmission and distribution networks, SPEN will also maximise the use of our existing distribution network using new network monitoring solutions and procuring 550MW of flexibility services from customers across over 1,300 sites. We have also developed a new network analytical platform and established a Low Voltage Monitoring facility using information from smart meters and network monitors to help a) identify where network upgrades are needed before LCT clustering potentially causes voltage or safety problems for customers, and b) identify developing network faults before they interrupt customer supplies.

(iii) Building more network capacity to ensure the network is available in a timely manner for those 'shovel ready' projects which are ready to connect.

Significant reform of the connections process, in itself, is not going to be enough to accelerate the connection of 'shovel ready' projects to the network. With the ScotWind leased capacity of 27.6GW, combined with the increased ambition set in the UK Government's British Energy Security Strategy (BESS) to deliver 50GW offshore wind by 2030, and the rapidly growing pipeline of onshore connections, the transmission network in Scotland requires an unprecedented programme of new investment and upgrades. It is vital that opportunities to co-ordinate with new connections related requirements are aligned with the extensive new infrastructure to be delivered.

Reform of the regulatory framework allowing for anticipatory investment is needed. Ofgem's Accelerated Strategic Transmission Investment (ASTI) is a welcome development. It will help to accelerate the network capacity required to meet the demand in connections. However, it is just as important that local 'enabling works' also benefit from access to early construction funding and accelerated regulatory decision-making. Given the strategic interlinkages between the smaller and larger projects, a review of the regulatory treatment of Medium Sized Investment Projects (MSIP) should be undertaken, alongside the current development of the proposed ASTI framework.

Fundamental reform is also required to the current planning processes in Scotland if the delivery of strategic network infrastructure is to be realised. Legislative changes will be required to support the acceleration of planning timelines in Scotland. SPEN is therefore working with both the Scottish and UK Governments, presenting solutions to reduce decision-making timescales for planning and consenting processes to 1 year. Securing these changes will be vital to delivering the scale of strategic infrastructure required to meet the Governments' 2030 and Net Zero ambitions.

(iv) The need for legislative reform on the existing duty to connect

As we explain in this response, the current connections regime is no longer fit for purpose and is stifling Net Zero ambitions. Whilst strategic connections reform will look to manage the connections process in the future, we are of the view that there needs to be an overhauling of the current obligations to connect on the ESO and TOs. Strategic connections reform will only be delivered in a timely and effective manner, if the new processes and new ways of working, do not get overwhelmed by the scale of connection applications received, as is currently the case. We therefore call upon Ofgem to progress with, and consult upon, proposals to review the way in which parties connect to the grid and to explore the options for reforming the existing duties on the ESO and TOs to connect parties to the network, in a way which complements and aligns with Net Zero aspirations.

We welcome this open letter as an important first step in this connections reform process, which highlights the ambition of Ofgem to tackle this issue now. We are fully supportive of Ofgem's objective for connections reform to deliver *"electricity connection offers with shorter average connection dates which better meet customers' needs and enable a timely transition to net zero"*. However, it must also be recognised that in order to accelerate the delivery of network infrastructure and speed up connections to the network, there will be winners and losers in parties seeking to connect to the network. Wider reform, aside from the connections process, is also needed to the system. This includes ambition from the Government to reform planning processes to speed up the decision-making timelines for network infrastructure and in supply chain and inward investment to make the UK competitive for the capital and resource necessary to match the scale of our Net Zero ambitions.

Yours sincerely

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