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ELECTRICITY NETWORKS

Connecting to the transmission system: why we're working with the industry to drive reforms

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& Susana Neves e Brooks, customer connections senior manager, National Grid Electricity System Operator

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Susana Neves e Brooks, customer connections senior manager at National Grid Electricity System Operator (ESO), gives a rundown of the ESO's programme to reform the connections process for the electricity transmission system as it seeks to connect hundreds of gigawatts of new projects over the coming years.

Over recent months and years, the positive, rapid progress being made in the electricity system to support Great Britain's decarbonisation ambitions and to deliver cleaner energy for all have translated into an unprecedented growth in applications to connect to the transmission system.

In a relatively short time, we've seen the electricity system transform from a smaller number of large fossil fuel generators to a diverse range of supplies, including renewable generation and storage, as well as new needs for electricity demand. Yet, the process for connecting to the electricity transmission system was designed for a time when we'd see fewer, larger power plants connecting to the system, and has remained largely unchanged.

To keep up with this pace of change, we need to reform how projects connect to the electricity transmission system to deliver benefits to consumers as soon as possible. There is currently 320GW of projects contracted to connect to the transmission system, and we have seen a 73% increase in applications in just this financial year to date. Ensuring the physical electricity system can quickly adapt to meet these demands has become a key priority for me as leader of the electricity connections team and the ESO.

We have been working hard with government, Ofgem, transmission owners (TOs), distribution network operators (DNOs), customers and stakeholders to understand what can be done to get projects connected as soon as possible. We're looking not only at the fundamental reform needed, but also what can be done in the short term to improve outcomes, while in parallel innovating with digitalisation and automation to further improve the experience for our Connections customers.

So, what are the opportunities for change?

The opportunity for stalled projects to leave the connections queue with no or reduced charges

In September, we shared with industry that we would launch a **Transmission Entry Capacity (TEC) amnesty**, running 1 October to 30 November 2022. This amnesty invites customers to bring forward projects that are no longer progressing to leave the connections queue with no or reduced cancellation charges, so that we can focus on projects that are ready to connect.

I hope this is the last time we will run a TEC amnesty as we are leading on work to introduce queue management to the Customer Use of System Code (CUSC) as soon as possible. Through code modification CMP376, we want to be able to better manage the queue of projects, by being able to terminate contracted projects which are not progressing against agreed milestones on an ongoing basis.

My team will be running webinars on 25 October and 16 November, so please visit our **website** to sign up to hear more about the process, how to apply and how this is part of our wider connections reforms.

Reviewing the contracted connections queue by reflecting the latest technological advances

We have identified the need to review Construction Planning Assumptions (CPA). These are the baseline assumptions made around volume and attrition for different technologies which shall connect to the transmission system. We intend to ensure CPAs are reflective of the knowledge gained over recent years on behaviours, combined with the enhanced understanding of renewable generation technologies.

In parallel we are reviewing the way we and TOs model storage connections as the current approach takes a more conservative view of what the assumed behaviours of storage could be, instead of how they may now respond to the needs of the energy market. Modelling of storage is being discussed around the world as different countries have different views and approaches. We are focused on leading the way to identify the best approach that enables the connection of storage projects. Currently, battery operation could be seen to exacerbate system constraints and the need for reinforcements. By better reflecting a broader range of potential behaviours, this could enable earlier connections and support the delivery of net zero.

The TEC amnesty and review of CPAs are important short to

medium-term actions that we are working on closely with TOs to enable the identification of capacity within the transmission system and therefore earlier connections dates. This review exercise will enable us to take a fresh look at the existing contracted background, liaise with Customers on opportunities where connection date or staging of connection can be offered, and proceed with any relevant contract changes.

Providing current and future connection customers with more clarity on timescales, sooner

We, in collaboration with TOs, are urgently focusing on a more coordinated approach to reviewing connection offers and creating opportunities to accelerate connections already in the contracted queue, ahead of more fundamental connections reform coming into effect.

The best way to allow our teams to simultaneously work on improving CPAs, and providing the quickly growing volume of new connections the clarity they seek, is by supplying customers with a compliant initial 'lighter' connection offer. This lighter offer will secure TEC and therefore a place in the queue, but will exclude some of the more detailed information on the scope of works for the connection, although we will commit to provide that information within a reasonable timescale. This will allow the technical teams in both ESO and TOs to focus on the CPA work to address the current connection timescales and dependency on enabling works, while providing customers with certainty of connection date and scope of works earlier than our customers are experiencing at the moment.

We will hold a webinar on the 25 October to provide insight on what the lighter connection offer shall look like and the follow-on process. We will be contacting Customers to provide the details on how to sign up for this webinar. You can find out more on our **customer connection** events page.

How do we plan to deliver more fundamental connections reforms?

As already mentioned, the current connections process was designed for a small number of large connections and is not fit for purpose to facilitate the growth in low-carbon technology needed to meet government targets, and the benefits these bring.

In our second RIIO2 business plan submitted to Ofgem at the end of August we set out a programme for more fundamental connections reform, informed by feedback from our customers and stakeholders, that would see us delivering a new connections process in Q3 2024. We have continued to listen, and we now intend to accelerate this programme, with a view to deliver to the industry in Q2 2023 an outline of the proposal for a new connections process and implementation strategy. This will help create an electricity transmission connections process that supports the delivery of GB ambitions, integrating renewable and low-carbon technology successfully alongside with maintaining reliability, longevity, resilience and value to end consumers as quickly as possible.

Working together to make it happen

We know that we cannot deliver these changes on our own – feedback from our customers and stakeholders will be vital. We are focused on engaging over October and November 2022 with everyone who is involved in and impacted by these connections processes, in order to inform the case for change and reform objectives. Your views are very important to me and the team, so please get involved through our webinars, or write to us at

Box.ConnectionsReform@nationalgrideso.com with your feedback.

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