

Accelerating Energy Storage Connections policy update

2nd June 2023

Context

Great Britain's Electricity System Operator (ESO) launched its [Five-Point Plan](#) on 27th February 2023. The plan included a range of initiatives that, in addition to the longer-term [Connection Reform](#) activities, help address many of the key issues that are driving the long lead-times for new connectees at both transmission and distribution.

One of our key deliverables in the five-point plan is to accelerate the connections for energy storage projects, which make up 34% of the current projects in the connections queue. To deliver this, we have improved our modelling assumptions to better reflect the system impact of battery energy storage systems (BESS). In addition, we are improving our connection arrangements for storage projects which is covered in this policy update.

Why do we think storage can help?

Our analysis suggests that storage technologies can support the operability needs of the system during times of stress. This reduces the carbon and cost impact of running the system. In addition, we have engaged storage developers to better understand their commercial models. This engagement supports our assumption that the operating modes of storage projects will generally align with system needs.

An additional benefit of accelerating the connection of storage is that it improves our understanding of their behaviours in multiple operating scenarios. This facilitates further industry framework development from an engineering, contractual and commercial perspective and means that further updates to the SQSS, CUSC and connection contracts can be brought forward.

What changes are we implementing?

We are accelerating the connection of energy storage projects by removing the requirement for [non-critical enabling works](#)¹ to be complete before they connect under a non-firm connection arrangement.

This means that the only transmission works storage customers will need to wait for are those that are essential to enable a physical connection to the network (such as building a substation or a bay), those needed to mitigate fault level issues or those needed to meet safety-based requirements.

We are pushing forward with this change as our analysis shows that storage projects can be beneficial for system operation. However it also highlights a potential risk that under

¹ Non-critical enabling works can be defined as Transmission reinforcement works which, if not delivered, can still allow the customer to make use of the system and enable network control to operate the system in a safe manner.

certain conditions, the real-time behaviour of such projects increases operational costs. We will mitigate this risk by having the ability to restrict their output under specific network conditions. Similar to traditional 'non-firm' transmission connections, these restrictions will be uncompensated. This is something we will keep under review as our knowledge and understanding increases on the impact of storage on the system. This will inform our strategy to enable moving storage providers to a firm connection.

Previously restrictions limiting system access in non-firm connection offers were only applicable for planned or unplanned availability of specific circuits. However we are expanding the concept of 'non-firm' to include intact system conditions. This means that there will be certain operational scenarios such as when it is windy and storage is contributing to the local constraints, where we may pull them back even if the network is intact. This approach frees-up transmission system capacity and significantly accelerates the connection of storage providers. However it does mean that we will need to develop specific contractual conditions and commercial/operational tools to cater for times where access may need to be restricted.

This is a significant step change in policy which will result in bringing storage connection dates forward, reflective of their ability to support system operation.

Who will be eligible for such types of connection?

All storage projects connecting to the transmission and distribution networks will be eligible for this type of connection. It will not be a prerequisite to have applied to our recent EOI.

Storage projects connecting to the distribution network will be required to meet basic ESO visibility and control criteria to allow operational management of assets. Note that they will still have to comply with any distribution network requirements.

Where storage projects are co-located with other technologies at a hybrid site, only the storage component will have the opportunity to have their connection date brought forward.

What are the next steps?

A standard non-firm clause will be developed and added into storage connection contracts. This clause will be focused on ensuring efficient system operation. This is currently being developed and we will share with industry as soon as we can.

We will provide further information to prospective storage projects to allow them to consider whether this type of connection offer is suitable in due course, including proposed implementation timelines. This is likely to be an overview of conditions by region/area, rather than individual assessments, and will be developed as part of our next steps.