

Ofgem: Consultation on getting an electricity connection

The Electricity Storage Network is the UK's only industry group dedicated to supporting electrical energy storage. Current members include electricity storage manufacturers and suppliers, developers of electricity storage projects, users, electricity network operators, consultants, academic institutions and research organisations.

The Electricity Storage Network has been working, since 2008, on behalf of its members to respond to and address issues affecting the development and utilisation of electricity storage within the UK power system. This includes special interest meetings, liaising with the media, responding to consultations, providing a unified point of contact for those interested in electricity storage and promoting the value of storage within the UK power system.

We strongly support UK energy storage solutions for the UK electricity system and by promoting local innovation in electricity storage we support wider UK industry.

Introduction

Ofgem are seeking views on the performance of DNOs at offering connections to potential connectees. The Electricity Storage Network has encouraged individual members to respond directly to this consultation as they have more direct experience with connecting electricity storage to the distribution network (and some members will have experience connecting renewable generation).

This response, therefore, covers the more generic issues associated with connecting storage.

General Comments

Connecting Electricity Storage

Currently electricity storage has to connect to the networks as both demand and generation due to the lack of a specific definition for storage and resulting connection and charging methodologies. This makes connecting electricity storage time consuming for both the potential connectee and the DNO, where two connections teams must assess the connection of a single asset.

Enhanced Frequency Response

Further the National Grid Enhanced Frequency Response (EFR) tender for 200 MW (Expressions of Interest in September 2015 and the tender 4-11 July 2016) was released without consultation with the DNOs and has resulted in an overwhelming number of firm connection requests to DNOs in the past 4-6 months.

National Grid may talk about "whole system" solutions, but the lack of consultation with DNOs for this new service (largely connecting to the distribution network) means that the requirement of National Grid for a firm connection (95 % availability) removes the opportunity for any electricity storage to provide additional support to the DNO. This clearly demonstrates a total lack of "whole system" thinking by the TSO.

Currently National Grid are reporting that there has been 9 GW of connection requests in total across all of the DNOs as a result of the EFR tender. National Grid themselves have received 0.5 GW of connection requests for transmission connected EFR assets. UK Power Networks reported last week that in their jurisdictions alone they have received 8 GW of connection requests from electricity storage. This suggests that the National Grid figure of 9 GW is significantly below reality.

National Grid only want 200 MW of EFR in this initial tender round, so the tender has been over-subscribed by at least 50 times and these connections are now sterilised and unavailable to other connectees be it storage or generation.

Managing connection is critical and there needs to be a way to prevent spurious applications and a way to release connections should projects not deploy within a certain time. There is an ENA consultation, “Fair and Effective Management of DNO Connection Queues: Progression Milestones” to deal with releasing capacity following agreement and there is a DECC consultation on the fees on connection applications, “Assessment and Design Fees”. These will be critically necessary to better manage the limited capacity that we do have.

Use of System Charging

Both Ofgem and National Grid are considering a review of Use of System charging, particularly TNUoS and BSUoS, for generation. Any review of Use of System charges should also cover electricity storage and also consider DUoS charges. The UK Power Networks Smarter Network Storage project has uncovered some interesting artefacts in DUoS charging that impacts on storage.

Flexible Connections

The Distributed Generation and Storage Sub-group of the Ofgem Workstream 6 of the Smart Grid Forum, extensively explored the options for “flexible connections”, but these options have not been developed further. The options to reduce “free-riding” and equitable sharing of reinforcement costs have not been developed.

Electricity Storage Network members, some of whom are renewable generators, would like to deploy storage with their generation plant. However while the partnership of renewable generation and storage would help manage constraints (by storing generated electricity when export was barred), the wording for Renewable Obligations (RO), means that the generated electricity can only be “used in a permitted way” and while storage doesn’t appear to be explicitly barred, if the electricity isn’t supplied to customers (Directly? Without delay?) this may result in the loss of the RO.

Response template

Question	Response																																		
About you and your work																																			
1. What is the name of your company?	Electricity Storage Network																																		
2. In which DNO's region do you generally operate (see Annex 2 for DNO map)? If you operate in more than one DNO's region please indicate which DNO your responses to the following questions refer to.	Members are active in all regions																																		
3. What type of connection do you generally require? And for each type of connection, how many connection applications, including total MVA (Mega Volt Ampere) of connections have you made in the past year?	<table border="1"> <thead> <tr> <th colspan="2">Type of connection</th><th>Total number of connections</th><th>Total MVA of connections</th></tr> </thead> <tbody> <tr> <td rowspan="4">Metered Demand Connections</td><td>Low Voltage (LV) Work</td><td></td><td></td></tr> <tr> <td>High Voltage (HV) Work</td><td></td><td></td></tr> <tr> <td>HV and Extra High Voltage (EHV) Work</td><td></td><td></td></tr> <tr> <td>EHV work and above</td><td></td><td></td></tr> <tr> <td rowspan="2">Metered Distributed Generation (DG)</td><td>LV work</td><td></td><td></td></tr> <tr> <td>HV and EHV work</td><td></td><td></td></tr> <tr> <td rowspan="12">Unmetered Connections</td><td>Local Authority (LA) work</td><td></td><td></td></tr> <tr> <td>Private finance initiatives (PFI) Work</td><td></td><td></td></tr> <tr> <td>Other work</td><td></td><td></td></tr> </tbody> </table>	Type of connection		Total number of connections	Total MVA of connections	Metered Demand Connections	Low Voltage (LV) Work			High Voltage (HV) Work			HV and Extra High Voltage (EHV) Work			EHV work and above			Metered Distributed Generation (DG)	LV work			HV and EHV work			Unmetered Connections	Local Authority (LA) work			Private finance initiatives (PFI) Work			Other work		
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Consultation questions																																			
1. Do you consider there are constraints on the network in this DNO's region? If there are no constraints please do not answer the following questions.	It appears that all DNOs are experiencing constraints across all of their networks, although isolated feeders may be unconstrained.																																		
2. What impact have these constraints had on your ability to get connected to the network?																																			
3. To what extent has the DNO tried to find ways to help you get connected in constrained areas? For example:	Anecdotal connection teams are not directly linked to innovation teams, so if a connectee suggests an innovative approach it is not considered by the connection team and often not passed to the innovation team for further investigation.																																		

a. To what extent has the DNO offered you more flexible and alternative connection arrangements alongside conventional firm connections? If not, then have they explained why not?	What is a "flexible" connection? As far as I am aware following work on Ofgem WS6 of the Smart Grid Forum, there isn't an "official" definition for a "flexible" connection. There is certainly no "standard" approach that is consistent for all DNOs and connectees.
b. If the DNO does offer alternative arrangements, is the information provided sufficient to decide whether or not to go forward with the connection?	
c. If the DNO does offer alternative arrangements, do you find the associated terms (eg. level of potential curtailment and certainty around maximum curtailment levels) acceptable?	
4. What information has the DNO shared with you on its work plan of activities designed to help enable connections in these areas?	
a. How comprehensive has this information been?	
b. To what extent has the DNO provided information on associated delivery dates of its work plan of activities?	
c. Are you aware if the DNO is forecasting future levels of growth in the type of connections you require?	
d. Are you aware of any plans the DNO has to invest in new network capacity where the network is	

constrained, to enable further customer connections? Have you been consulted on these plans? Has the DNO explored with you ways in which this could be funded?	
5. Please give details of any other activities you would expect the DNO to be undertaking to deal with constraints on their network.	Better management of accepted offers, where no deployment has occurred to ensure unused capacity is released.

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