Electricity Network Innovation Competition Full Submission

Supplementary Answer Form

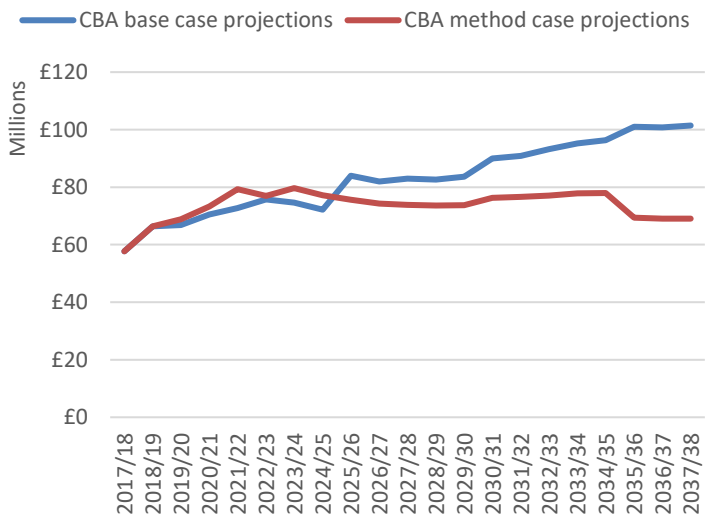
Project: Black Start from Distributed Energy Resources

Tick if this answer has been provided verbally: ☑

Project code	ESOEN01	Question Number	68
Question date	2 Oct 2018	Answer date	4 Oct 2018
Submission section question relates to			
Topic			
Question	To what extent is the detailed project plan and testing regime for this project dependent on the NIA project. How can the Panel understand the efficacy and value for money of the proposed NIC project without sight of the output of the NIA project? Given this, please justify the timing of this NIC application.		
Notes on question			
Answer	The NIC project plan and testing regime is not dependent on the outcomes of the NIA. The NIA project will identify and seek to increase the TRL of 'riskier' technologies such as renewables, controllable demand, storage, etc. that are not included for consideration in the NIC. Learning outcomes from the NIA project should be available in the first half of 2019, value-adding to the development phase of our NIC project. Outputs will include an evaluation of technological readiness and capability, solutions for bridging the gap, a characterisation of operational limits and constraints for growing a Power Island and the next steps that industry should pursue to enable further opportunities. Technologies may be identified in the NIA as having a high enough TRL to include in the NIC case studies. However, if this is not the case, there are already technologies connected at distribution level with a high enough TRL to ensure significant value from the case studies. The figure below (derived from our CBA) illustrates the benefits of the project if we act now. Our CBA assumes that, if successful, our method is implemented around 2025. As the graph shows, this is exactly when we forecast the cost of Black Start in the base case to start to significantly increase. Therefore, the longer we wait to kick this project off, the more cost		

increases we are exposed to, and the less benefits are delivered to consumers. We have tested this within the cost benefit analysis model, and delaying the NIC project (and therefore delaying the implementation) leads to a reduction in benefit in all cases.

Furthermore, the sooner this project delivers, and a clear signal is sent to the market that there is value for DER from Black Start, the sooner DER developers and OEMs will respond by building Black Start capability into new assets to capture this value (reducing the need for more costly retrofits).



Our engagement with the market to date shows overwhelming and unanimous support for this project, with the vast majority agreeing that now is the time to act. The BEIS Black Start Task Group and ENA's Open Networks Project have already started to think about the opportunity of Black Start from DERs and support this NIC project. Our project will build upon this valuable work done to date and accelerate a solution.

All market developments and signals point to the fact that the time is right to develop, test and rollout this innovative approach: ever-increasing numbers of DER that could provide this service; the worsening economics of large thermal generators, leading to risk of closure; enhanced capability of DER and communications technologies; and aforementioned readiness of the industry.

Attachments	