

LCN Fund Full Submission

Supplementary Answer Form

Tick if this answer is Confidential: ☐

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Project code:	NPGT202/1	Question Number	NPG032
Question date	02/10/12	Answer date	04/10/12
Submission section question relates to	Section 2 Appendix 3		
Topic	Project Description		
Question	The Customer Led Network Revolution project has identified a risk to delivery of their energy storage. Please explain the impact on the costs and benefits of GBFM if the energy storage is not delivered and how you will mitigate this risk.		
Notes on question			
Answer	<p>The GBFM project plans to use the storage assets purchased for the CLNR project. DNO-owned storage will participate in the trials as a provider of flexibility. This will allow testing of the extent to which flexibility provided by DNO-owned storage can be used and shared by parties in the electricity sector.</p> <p>The outputs of the work on storage are as follows.</p> <ul style="list-style-type: none"> • Updated business case for storage. This will take into account real operational data on storage, as well as the impact on the business case of trading and sharing the output of DNO-owned storage with other electricity sector parties. • Roadmap for DNO ownership and use of storage. We will produce a roadmap for the business as usual rollout of DNO-owned storage. This will build on the results of the trials as well as on the evaluation work and the assessment of the regulatory and legal barriers to DNO ownership and use of storage. <p>Using the batteries supplied under the Customer-Led Network Revolution</p>		

(CLNR) project to operate in the GBFM trials is highly cost effective. In GBFM, the total cost for delivering the storage aspects of the trials is around £0.4m (labour, meter installations and maintenance). This provides further value from the prior investment by customers in this innovative technology for a relatively low cost. In the unlikely event that the batteries were unavailable, we would still develop the necessary commercial arrangements and deliver the stated learning. However we would not conduct physical trials and instead we would model the technical operation of the battery units through simulation and emulation activity performed by Durham University. This would still deliver the same learning outputs and would save around £0.2m (maintenance and meter installations). The learning would be less valuable since by not carrying out end-to-end testing it is possible that a technical challenge remained undiscovered and therefore unresolved (this risk is not considered significant). It is for this reason that our favoured method is to carry out the physical trials.

Specifically, if the CLNR storage assets were not available we would amend the tasks to minimise the impact on learning as follows:

- **We would simulate and emulate the participation of storage in the trials.** If available, this simulation would be based on data from the operation of storage owned by other DNOs. If this data is unavailable, it would utilise the technical parameters of commercially available storage, such as that being purchased for CLNR.
- **We would increase the participation of DSR in the trials.** To ensure provision of flexibility in the trials remain at statistically robust levels, we would increase the provision of flexibility from DSR.
- **A business case would still be completed.** We will assess the business case for DNO-owned storage to take account of the impacts of sharing of flexibility from storage with other parties in the sector.
- **A roadmap for DNO ownership and use of storage would still be completed.** The roadmap for DNO ownership and use of storage will be produced based on the business case.

As stated above, if storage was not operated in the trials then the GBFM project cost saving would be approximately £0.2m. The same Northern Powergrid resource would be required to operate a simulated storage plant in the trials as would be required to operate a real storage plant. While the operating costs of the storage assets would not be incurred, we would replace the real provision of flexibility from storage with additional DSR resource to ensure the participation in the trial remains at statistically robust levels. The costs of purchasing this additional DSR would offset the reduction in the costs of operating storage.

Northern Powergrid expects the Customer-Led Network Revolution project to deliver the storage aspects of those network trials through the remainder of 2012 and into 2013. Currently the batteries are being manufactured by A123 Systems in the United States. A visit to their works by Northern Powergrid last week (week ending 28 September 2012) witnessed satisfactory progress being made by the vendor. Site preparation works have been undertaken and installation and commissioning is expected to be completed in late 2012.

Attachments	
Verbal Clarifications (Consultants)	