

LCN Fund Full Submission

Supplementary Answer Form

Tick if this answer is Confidential: ☐

Tick if this answer has been provided verbally: ☐

Project code:	WPDT2002	Question Number	20
Question date	6 th October 2011	Answer date	13 th October 2011
Submission section question relates to			
Topic	Technical		
Question	Has any initial modelling been carried out to assess the potential impact on losses due to the use of the storage devices?		
Notes on question			
Answer	<p>No detailed modelling has been completed on losses as part of the LCNF bid phase.</p> <p>We have, however, carried out a high level engineering investigation as detailed in Appendix J, where we have outlined the losses impact associated with storage:</p> <p>The LV energy storage is expected to reduce distribution losses under two scenarios:</p> <ol style="list-style-type: none"> 1. utilise the high level of LV generation currently on the network, at times of low load to charge, 2. "flattening" the load profile on the 11kV system and secondary substation transformers <p>Scenario 1 will be dependent on the quantity of LV generation installed. Scenario 2 is estimated to have in the order of a 10% reduction in losses in the secondary substation transformers and HV network.</p> <p>However, there are losses associated with the efficiency of the storage devices, which have an expected round trip efficiency of 82%.</p> <p>Therefore utilising storage over an area of 11kV network should mean that</p>		

	<p>the net losses due to battery installation remain largely unchanged. This assertion is consistent with the analysis carried out by other DNOs on their LCNF projects.</p> <p>As part of project delivery, using the SIM, we will undertake formal network losses modelling as part of the Project. We will combine storage with the other invention techniques to explore and maximise the benefits.</p>
Attachments	
Verbal Clarifications (Consultants)	