

Electricity Network Innovation Competition Full Submission
Supplementary Answer Form

Project: Optimise Prime

Tick if this answer has been provided verbally: ☐

Project code	UKPNEN03	Question Number	2
Question date	07/08/2018	Answer date	09/08/2018
Submission section question relates to	Section 5		
Topic	Criteria d) Innovative		
Question	Please explain what work UKPN has carried out to look for efficiencies in using a wider pool of standard transformers.		
Notes on question	We believe that this question refers to Section 3 of the submitted FSP proforma and in particular sub-section 3.3.2.2 on Reinforcement Trigger Point.		
Answer	<p>At UK Power Networks we are using a wide pool of standard transformers¹ which aligns with the size of transformers other GB DNOs are using and is in accordance with relevant ENA Technical Specifications (such as the ENA TS 35-1²).</p> <p>The fact that we and other GB DNOs are using the same standard sizes of transformers on our networks allows, due to economies of scale, far better market pricing to be achieved for those units. Customised transformer sizes and/or transformer sizes used by fewer parties would mean higher priced units.</p> <p>This allows us to procure transformers in bulk hence achieving cost efficiencies ourselves from the manufacturers. It also reduces the amount of type testing of units required and the costs of logistics associated with maintaining sufficient stocks of each transformer size. Using a suitable number of standardised sizes of transformers can also reduce manufacturing lead times which is beneficial for completing time critical work such as unplanned transformer replacements or customer connections.</p>		

¹ <http://library.ukpowernetworks.co.uk/library/en/g81/Materials/EAS+04-0000a+Materials+List+-+Approved+Distribution+Transformers.xlsx>

² <https://www.thenbs.com/PublicationIndex/documents/details?Pub=ENA&DocID=301642>

	<p>In short, having an appropriate number of standard sizes of transformer delivers great benefits to customers.</p> <p>It should be clarified that these transformer sizes have been used for both the base and method cases of the Optimise Prime business case, as such have no overall impact on the benefits identified.</p> <p>Where new technology is identified we innovate to explore whether these standards should change. For example, we are currently scoping a project to trial a new type of device, the Faraday Exchangers³, that could replace conventional transformers and may introduce new standard sizes.</p>
Attachments	

³ This is part of scoping a collaboration project with Faraday Grid Ltd to trial their technology which is intended to increase the dispatchability of renewable energy generation capacity, increase grid stability and replace the function of different components with the network including transformers.