

LCN Fund Full Submission

Supplementary Answer Form

Tick if this answer is Confidential: ☐

Tick if this answer has been provided verbally: ☐

Project code:	ENWT205	Question Number	16
Question date	17 September 2013	Answer date	19 September 2013
Submission section question relates to	Section 2: Project Description		
Topic	Technical		
Question	Please detail how you will ensure that substations that are being meshed have complimentary load profiles.		
Notes on question			
Answer	<p>We will quantify the benefits of the application of the <i>eta</i> Method under different loading scenarios. The <i>eta</i> site selection methodology (see Appendix B on page 52) describes the process Electricity North West will follow to select appropriate Trial circuits that allow the selection of representative samples of different circuit types and loading profiles. In the selection of circuits the methodology takes into consideration the different types of circuits and customers types connected, including whether the customers have adopted Low Carbon technologies or not. It is anticipated that interconnection between circuits supplied from the same and different substations will in some cases provide complimentary load profiles and in others will not. This presents an opportunity to test the effect of deploying the enabling technologies on circuits with the same and differing characteristics and provides valuable learning on how <i>eta</i> can be adopted in a number of scenarios.</p> <p>The <i>eta</i> Test regimes, described in Section 2.3 on page 11, have been established to test and quantify the benefits of the new operating arrangements on circuits with differing load profiles in support of proving Hypothesis 2 (The <i>eta</i> Method facilitates the prioritisation of the range of solutions across differing LCT adoption scenarios based on cost benefit analysis to accommodate customers' uptake of LCTs). Table 2.2 "<i>eta</i> Trial and Test Regimes" replicated below shows the range of tests that will be undertaken in the <i>eta</i> Project to determine the benefits of potential <i>eta</i> interventions separately and in combination.</p>		

	<table><tr><th>Technique</th><th>Test regimes</th></tr><tr><td colspan="2">Trial: OFF/ON Trial period: Two years</td></tr><tr><td rowspan="5">LV Voltage Control</td><td>1. On-load tap changing distribution transformer only; or</td></tr><tr><td>2. On-load tap changing distribution transformer and capacitor(s) on LV circuits; or</td></tr><tr><td>3. Capacitors at distribution substation only; or</td></tr><tr><td>4. Capacitors at distribution substation and on LV circuits; or</td></tr><tr><td>5. Capacitor(s) on LV circuits only.</td></tr><tr><td rowspan="2">LV Network Management and Interconnection</td><td>1. LV radial circuits; or</td></tr><tr><td>2. LV interconnected circuits.</td></tr><tr><td rowspan="2">HV Voltage Control</td><td>1. Voltage Controllers at Primary substation only; or</td></tr><tr><td>2. Voltage Controllers at Primary substation and capacitor(s) on HV circuits.</td></tr><tr><td rowspan="2">HV Network Management and Interconnection</td><td>1. HV radial circuits; or</td></tr><tr><td>2. HV interconnected circuits.</td></tr><tr><td rowspan="2">Network Configuration and Voltage Optimisation</td><td>1. Losses reduction; and/ or</td></tr><tr><td>2. Energy consumption reduction.</td></tr></table>	Technique	Test regimes	Trial: OFF/ON Trial period: Two years		LV Voltage Control	1. On-load tap changing distribution transformer only; or	2. On-load tap changing distribution transformer and capacitor(s) on LV circuits; or	3. Capacitors at distribution substation only; or	4. Capacitors at distribution substation and on LV circuits; or	5. Capacitor(s) on LV circuits only.	LV Network Management and Interconnection	1. LV radial circuits; or	2. LV interconnected circuits.	HV Voltage Control	1. Voltage Controllers at Primary substation only; or	2. Voltage Controllers at Primary substation and capacitor(s) on HV circuits.	HV Network Management and Interconnection	1. HV radial circuits; or	2. HV interconnected circuits.	Network Configuration and Voltage Optimisation	1. Losses reduction; and/ or	2. Energy consumption reduction.
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Attachments																							
Verbal Clarifications (Consultants)																							