

# *LCN Fund Full Submission*

## *Supplementary Answer Form*

Tick if this answer is Confidential: ☐

Tick if this answer has been provided verbally: ☐

Project code:	WPD-T2-04	Question Number	WPD038
Question date	02.10.2012	Answer date	04.10.2012
Submission section question relates to	8		
Topic	Customer Impact		
Question	<p>You note that mal-operation of equipment for methods Beta and Gamma could result in unplanned interruptions. As required by the governance document, please indicate the potential number and duration of unplanned interruptions under both Beta and Gamma (for each proposed mitigation technology). One of the mitigations is an emergency return to service plan. If you have not already, when will you develop this plan?</p>		
Notes on question			
Answer	<p>An unplanned interruption may occur during the installation phase and/or the operational phase of Methods Beta and Gamma. Through existing and planned mitigation measures, all unplanned interruptions will be reduced to under three minutes, ensuring that no CMLs or CIs are incurred.</p> <p>During the operational phase unplanned interruptions could occur in the instance that there is a mal-operation of equipment (Fault Level Monitor or Fault Level Mitigation Technology) and the protection of the network equipment does not operate as designed. A mal-operation of equipment is not foreseen. However, as with all electrical equipment, installed as part of a distribution network, incidents such as insulation degradation can occur, leading to an unplanned interruption (fault) on the system. The design of the equipment's connection on the system will ensure that the risk of an unplanned interruption is reduced as far as practicable.</p> <p>The substations in the Trials area have existing sequence switching schemes (automated network reconfiguration to restore customers' supply) that operate in less than 180 seconds (3 minutes). The sequence switching schemes would mean that there are no CIs or CMLs incurred.</p>		

	<p>15 new pieces of equipment (10 Fault Level Monitors and 5 Fault Level Mitigation Technologies) are to be connected to the network as part of FLEXGRID. It is not possible to determine the potential number of operational unplanned interruptions during the Trial.</p> <p>Unplanned interruptions relating to the equipment installation for Methods Beta and Gamma will be mitigated through emergency return to service plans. An emergency return to service plan (ERTS) is designed to provide a solution to re-connect customers in the instance that a planned outage (to connect Method Beta or Gamma equipment) is in progress and a fault, somewhere else on the system, occurs. An ERTS plan is developed for every significant element of work undertaken on a distribution network. The ERTS plans have not yet been considered in detail. They will be integrated in to the detailed design phase of FLEXGRID, for each technology installation. The ERTS planning will be led by WPD's outage programming department. Due to the nature of distribution network faults, it is not possible to determine a number of unplanned interruptions that could occur during FLEXGRID's equipment installation phase.</p>
Attachments	
Verbal Clarifications (Consultants )	