

# *Network Innovation Competition Full Submission*

## *Supplementary Answer Form*

Tick if this answer is Confidential: ☐

Tick if this answer has been provided verbally: ☐

Project code:	SPT EN 01	Question Number	19
Question date	22-08-2013	Answer date	26-08-2013
Submission section question relates to	Response to Question 3		
Topic	Technical Description of Project		
Question	What enhancements, physical or otherwise, are required to enable existing PMUs to communicate to the proposed VISOR server?		
Notes on question			
Answer	<p>The IEEE C37.118 Standard specifies the data exchange architecture and protocols used for streaming synchrophasor data. This hierarchical architecture consists of PMUs, which produce synchrophasor measurements, and PDCs (Phasor Data Concentrators) which aggregate data streams from PMUs and other PDCs, passing them on to other PDCs. These PDCs can range from substation computing platforms to – as in the case of the SPT, NGET and SHE Transmission WAMS servers – software functionality running on a standard server platform.</p> <p>Using this architecture, data from the existing SP and NGET PMUs will be passed on to the VISOR server from their respective WAMS servers in the SP and NGET Control Centres. This will require provision of communications links between the servers, configuration of the appropriate network routing and firewalls, and some minor software configuration on the servers themselves.</p> <p>The existing PMUs – that is, PMUs which are already feeding data to the WAMS servers at SP or NG – will require no modification.</p> <p>Once this initial setup is achieved, any additional PMUs or other monitoring devices connected to the individual TO WAMS servers can be included in the data streams sent to the VISOR server with only minor software configuration changes at the servers themselves.</p> <p>The IEEE C37.118 standard includes the communication format for streaming data between PMUs and PDCs over IP. There is IP communication</p>		

	already existing at the substations where PMU data will be recorded. Some IT network software reconfiguration may be required, in particular revision of firewall rules to allow the PMU data to be transferred. However, this is a modest effort, and the VISOR project will standardise the whole process of installation, configuration and communication of phasor measurements.
Attachments	
Verbal Clarifications  (Consultants )	