

*LCN Fund Full Submission*

# *Supplementary Answer Form*

Tick if this answer is Confidential: ☐

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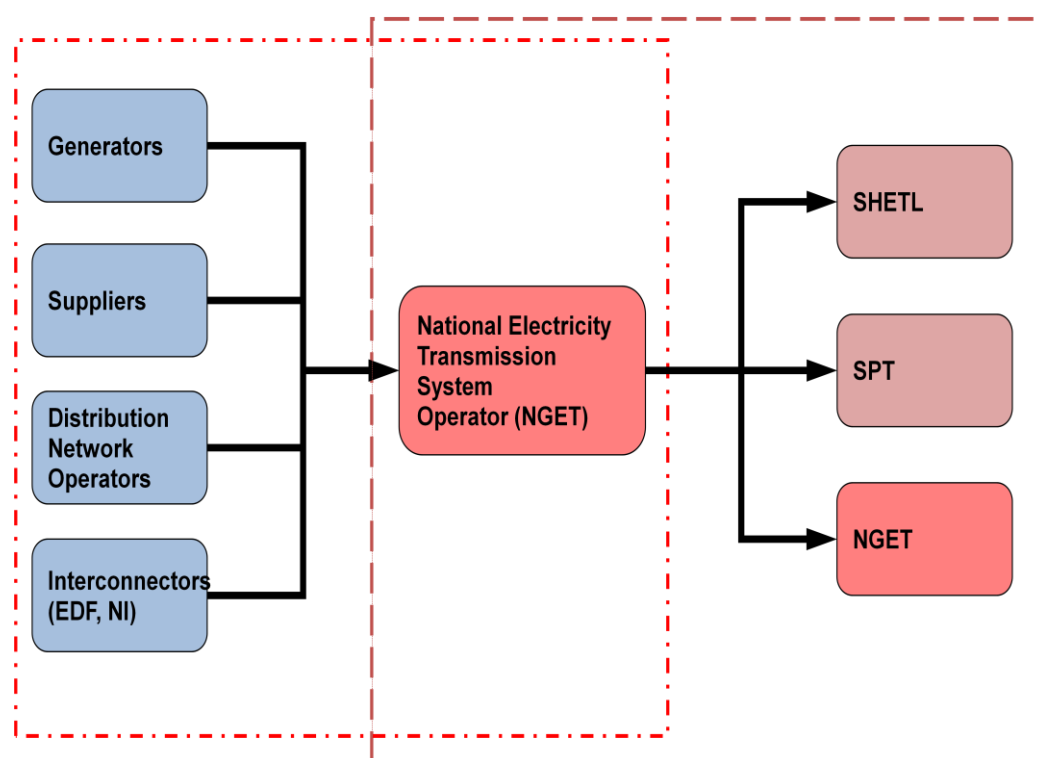
Project code:	SPD2004	Question Number	SPD029
Question date	27/09/2012	Answer date	02/10/2012
Submission section question relates to	Appendix 5		
Topic	Case Studies		
Question	In Case Study 1 we note that the key beneficiary appears to be the Transmission Owner. What mechanisms are you proposing to the TO to pay for a share of the costs or redistribute the benefits?		
Notes on question			
Answer	<p>We consider that it is incorrect to believe that the TO is the key beneficiary in Case Study 1 and believe that the benefits of implementing Active Network Management (ANM) where a developer seeks connection at a net exporting GSP accrue directly to the generator and the country as a whole as this will facilitate a more economic &amp; timely connection that will not otherwise be possible under a business as usual arrangement and existing industry codes and connection guidance.</p> <p>The reason that the benefits accrue directly to the generator are;</p> <ol style="list-style-type: none"> <li>1. Through ARC embedded generation could connect to the network ahead of proposed Transmission reinforcement upgrade required to meet the System Operators existing obligations under the System Security and Quality of Supply Standards (SQSS). In the absence of ANM the delay to connect under Business As Usual will be in the order of 10-years.</li> <li>2. In the absence of timely delivery, the embedded generator will have no business case and the project will fail meaning that the low carbon generation opportunity is lost. This is due to uncertainty around funding arrangements such as FITs/ROCs that would be in place upon completion of the works, the difficulty in obtaining funding from finance institutions in the absence of timely delivery of a network connection and overall uncertainty that this presents.</li> </ol>		

3. As a consequence of the scale of the generator vs. the cost of the transmission upgrade, the generator will also benefit from **not** having to secure the costs of the TO works during the construction period, which based upon the scale of the distributed generator would render the project uneconomical as they could not take on this liability.

Within GB the three Transmission Owners (TOs) provide the high voltage electricity transmission network in their respective licence areas however National Grid Electricity Transmission. the National Electricity Transmission System Operator (NETSO) controls access to the GB transmission system.

The NETSO also manages the customer interface and sets the transmission charges and the three Transmission Owners, SPT, SHETL & NGET must enter into and comply with a contract called the System Operator-Transmission Owner (SO-TO) Code to make available its assets to the NETSO.

Figure 1 below provides an overview of the GB Transmission Arrangements between the various industry stakeholders.



### **GB Transmission Arrangements Regulatory & Legal Framework**

- **Licence Obligations**

The transmission licence places a number of obligations on all transmission owner licensees that include obligations to make available its network to the System Operator (NGET), including carrying out directions from the System Operator (NGET) to facilitate flows of electricity over the national electricity transmission system.

In addition, TO's have a duty to plan and develop their transmission systems in accordance with the System Security Quality of Supply Standards (SQSS).

- **National Electricity Transmission "System Security & Quality of**

	<p><b>Supply Standards” (NETS SQSS)</b></p> <p>The NETS SQSS sets out the criteria and methodologies that Transmission Licensees (both onshore &amp; offshore) use in the planning and operation of the NETS. The criterion presented in the NETS SQSS represents the minimum requirements for the planning and operation of the National Electricity Transmission system and thus is the reason for the issues raised in Case Study 1 – <b><i>ARC will seek to innovate in this area and inform on potential changes to the NETS SQSS to facilitate and accelerate the connection of generation at Distribution voltages where there is an impact upon the transmission system.</i></b></p> <p>PPA Energy’s report which states that “In the case of exporting GSPs, it appears that the significant savings in transmission reinforcement accrue to the Transmission Owner” misrepresents the real-issue that ARC is trying to resolve by breaking down the barriers of connecting distributed generation that, based upon the requirements of the NETS SQSS has an impact on the transmission system and thus cannot be connected ahead of costly reinforcement with a lead time of 10 years or more.</p> <p>In conclusion, as a consequence of the contractual and regulatory framework in place between GB Transmission Owners and the GB System Operator, the TO in Case Study 1 is executing its duties in line with the licence &amp; statutory obligation placed upon it by the GB System Operator.</p> <p>Through the proposed trials under ARC we will seek to inform on a more economic and efficient connection of distributed generation using ANM techniques, where it is considered by the GB System Operator to impact the operation of the transmission network and that this benefit will be realised by all industry stakeholders including users of the GB Transmission System by promoting solutions that avoids the need for major, costly reinforcement that will ultimately reduce the overall costs incurred by GB consumers through TUoS charges.</p>
Verbal Clarifications  (Consultants )	