

Network Innovation Competition Full Submission

Supplementary Answer Form

Tick if this answer is Confidential: ☐

Tick if this answer has been provided verbally: ☐

Project code:	NGGTGN01	Question Number	8
Question date	03 September 2013	Answer date	05 September 2013
Submission section question relates to	Section 4		
Topic	Criteria a		
Question	If the VECTOR project proves to be successful in terms of a) integrating the VIGVs to existing compressor units and b) extending the envelope of the compressor units, please quantitatively and qualitatively explain the benefits in terms of the resultants increased flexibility in the NTS.		
Notes on question			
Answer	<p>The VECTOR project aims to develop and demonstrate a solution which can be used to increase the operating range of gas compressors on the NTS by about ~ 10 – 30% in much shorter timescales than a compressor re-wheel. This will allow increased flexibility in managing a range of scenarios where compressors are required to manage short term variation in NTS gas flow requirements for example, as a result of large local CCGT loads coming online.</p> <p>The magnitude of the overall change that will be seen on the network into the future is uncertain. The future location of CCGT clusters or the future mix of variable gas supply sources on the NTS is uncertain. The VECTOR submission identified nine compressor sites located in close proximity supply points and anticipated CCGT clusters. These are sites most likely to benefit from installation of VECTOR technology (see Section 4.1 of VECTOR submission). The exact sites will become clearer as the gas and electricity network develops.</p> <p>On a compressor unit basis, VECTOR is comparable to a re-wheel since it suggests a similar magnitude of flow capability variation as provided by a</p>		

	<p>re-wheel. The advantages provided by VECTOR are:</p> <ol style="list-style-type: none"> 1. The ability to respond to changes in gas compression requirement outside the capability of the original wheel is much faster – minutes rather than months as in the case of a re-wheel; 2. The change in compressor flow capability will be instantaneously reversible. Hence a wider range of flow variability could be managed efficiently. <p>Quantifying the potential benefits is one of the main aims of the proposed demonstration project including the magnitude of additional compressor operating range that be conferred by VECTOR, the impact on overall train efficiency, ease and cost of retrofit and the effectiveness of real time control.</p>
Attachments	
Verbal Clarifications (Consultants)	