At the December meeting of Powerlink's Customer Panel, a presentation and discussion was facilitated on the Regulatory Investment Test for Transmission (RIT-T) for expanding transmission transfer capacity between Queensland and New South Wales.

Members of the panel requested clarification in the following areas:

- Does the RIT-T cover both Group 1 and Group 2 projects as outlined in AEMO's Integrated System Plan?
- Will there be a reassessment of Stage 2 projects at a later date?
- Comparison between current transfer capacity and those associated with RIT-T options
- A breakdown of costs for each option showing what proportion is paid for by Queensland and New South Wales customers.

Does the RIT-T cover both Group 1 and Group 2 projects as outlined in AEMO's ISP?

The PSCR presents and compares a range of network options to expand transmission transfer capacity on the QNI. This includes the short (Group 1) and longer term projects (Group 2) already identified in AEMO's ISP.

The PSCR also sets out the requirements for any non-network solutions to address the identified need.

It is important to note that the preferred option may include a combination of options outlined in the PSCR, including non-network solutions.

Will there be a reassessment of Stage 2 projects at a later date?

The results of the options assessment and the identification of the preferred option (network or non-network) will be presented at the PADR stage of this consultation, due for publication during 2019.

If the preferred option provides benefits as soon as practicably implementable, no further consultation will be required as long as the costs are within the sensitivity analysis, noting that some options can take time to implement.

However, if the preferred option includes stages to be implemented into the future, the assumptions underpinning the market modelling will be monitored and reassessed closer to implementation. If the assumptions or market conditions are materially different, further reassessment may be required.

Comparison between current transfer capacity and those associated with RIT-T options

It is important to note that the purpose of the RIT-T is not to select an option that has the maximum increase in transfer capacity, rather an increase associated with the greatest net market benefits.

The transmission transfer capacity between Queensland and New South Wales is not static, rather it fluctuates depending on the operating state of the network at the time.

For the purpose of the RIT-T, transfer capacity was presented using network operation aligned with daytime, medium demand conditions. The transfer capacities of 310MW northward and 1,025MW southward are the current notional limits (refer to PSCR Section 2.1).

The following table outlines the resulting estimated transfer capacities for each option.

A breakdown of costs for each option showing what proportion is paid for by Queensland and New South Wales customers

A breakdown of estimated costs showing Queensland and New South Wales' proportions is below. All cost estimates and proportional breakdowns are indicative at this stage. TransGrid and Powerlink will further refine these estimates as part of the PADR.

It should also be noted that the introduction of inter– regional transmission charging arrangements will see the costs of transmission capacity used for conveying electricity between regions allocated to the regions that derive benefits from such capacity. Separate to capex, minor operating expenditure costs (e.g. secondary system changes) will also be allocated and will differ depending on the option.

Option description	Indicative total transfer capacity (MW)		Estimated capex ($m)	Proportion NSW Works	Proportion QLD Works
	Northward	Southward			
Incremental upgrades to the existing network to increase transfer capacity					
Option 1A – Uprate Liddell to Tamworth Lines and install new dynamic reactive support at Tamworth and Dumaresq and shunt capacitor banks*	770	1,215	142	100%	0%
Option 1B – Uprate Liddell to Tamworth Lines only	535	1,030	28	100%	0%
Option 1C - Install new dynamic reactive support at Tamworth and Dumaresq and shunt capacitor banks	595	1,180	114	100%	0%
Option 1D – Sapphire substation cut into line 8C and a mid-point switching station between Dumaresq and Bulli Creek	535	1,165	45	45%	55%
A new single-circuit line from NSW to Queensland					
Option 2 – 330 kV single circuit between Braemar and Liddell	980	1,865	855	70%	30%
A new double-circuit line from NSW to Queensland					
Option 3A – 330 kV double circuit between Bulli Creek and Armidale*	770	1,593	560	80%	20%
Option 3B – 330 kV double circuit line between Braemar and Liddell via Uralla (and establishment of a Uralla 330 kV substation)	1,530	2,160	1,505	80%	20%
Option 3C – 330 kV double circuit line between Braemar and Uralla, 500 kV single circuits between Uralla and Wollar and between Uralla and Bayswater (and establishment of Uralla 500/330 kV substation)	1,695	2,540	2,039	85%	15%
High Voltage Direct Current options					
Option 4A – HVDC back-to-back	1,195	1,780	825	0%	100%
Option 4B – HVDC between Mudgeeraba and Lismore**	765	1,190	600	~65%	~35%
Option 4C – HVDC between Western Downs and Bayswater**	2,590	2,990	2,100	~65%	~35%
A grid-connected battery system					
Option 5 - Battery energy storage system	1,135	1,635	1,000	50%	50%

* Option 1A is the ISP recommended Group 1 investment and Option 3A is the ISP recommended Group 2 investment. The transfer capacities and cost estimates for these options will be refined in the PADR.

** Power transfer capacities are defined as the sum of both the HVAC interconnector and for the new HVDC option.