Powerlink Queensland

Summary of Project Assessment Conclusions Report

15 April 2019

Maintaining reliability of supply to the Rockhampton area

Summary

The Egans Hill to Rockhampton transmission line is a 132kV double circuit line commissioned in 1963 that forms part of the connection between Powerlink's Bouldercombe and Rockhampton substations. It provides a critical link into the Rockhampton Substation which is a major injection point for the Rockhampton and surrounding area distribution network.

Under the Electricity Act 1994, Powerlink is required to operate, maintain (including repair and replace if necessary) and protect its transmission grid to ensure the adequate, economic, reliable and safe transmission of electricity.

The transmission line between Egans Hill and Rockhampton is nearing the end of its technical service life, with the majority of structures on the transmission line exhibiting signs of degradation. Specifically, loss of the galvanising on members, the onset of early corrosion to nuts, bolts and hardware, and the decay of grillage foundations, all increase the risk of mechanical failure of components of the transmission line, particularly in storm and cyclonic conditions. This presents a risk to the ongoing safe, reliable and economic supply of electricity into Rockhampton and the surrounding area requiring resolution.

Since consideration for this investment is driven by an obligation in the National Electricity Rules (the Rules), it is a 'reliability corrective action' under the Regulatory Investment Test for Transmission (RIT-T).

This Project Assessment Conclusions Report (PACR) represents the final step of the RIT-T process prescribed under the Rules undertaken by Powerlink to address the condition risks arising from the ageing Egans Hill to Rockhampton transmission lines. It contains the results of the planning investigation and cost-benefit analysis of credible options. In accordance with the RIT-T, the credible option that maximises the present value of net economic benefits is recommended for implementation.

Credible options considered

Powerlink published a Project Specification Consultation Report (PSCR) and a Project Assessment Draft Report (PADR) to Registered Participants, the Australian Energy Market Operator (AEMO) and interested parties in September 2018 and January 2019 respectively, regarding the reliability of supply to the Rockhampton area. These documents invited submissions of credible non-network options to replicate the support that the Egans Hill to Rockhampton transmission line provides both Powerlink and Ergon Energy in meeting the Rule's reliability obligations on an enduring basis.

No submissions were received in response to the PSCR that closed on 24 December 2018 or the PADR that closed on 15 March 2019. As a result, no additional credible options, that could deliver a material market benefit, have been identified as a part of this RIT-T consultation.

Powerlink proposed four credible network options in the PSCR and PADR to address the identified condition-based need on the Egans Hill to Rockhampton transmission line.

A summary of the credible options is given in Table 1.

Table1: Summary of credible options

Option	Description	Indicative capital cost ($million, 2018/19)	Indicative annual O&M costs ($million, 2018/19)
Base Option: Partial refit by December 2020. Rebuild by December 2030	Minimalist refit of line without painting by December 2020*	8.08*	0.112
	Rebuild entire line by December 2030†	24.85†	
Option 1: Staged life extension by December 2020 and December 2030. Rebuild by December 2044	Refit and paint northern section of the line by December 2020* Refit without painting the southern section by December 2020*	9.98*	0.071
	Minimalist refit and paint of the southern section by December 2030†	2.30†	
	Rebuild entire line by December 2044†	24.85†	
Option 2: Life extension by December 2020. Rebuild by December 2044.	Refit and paint entire line by December 2020*	12.48*	0.041
	Rebuild entire line by December 2044†	24.85†	
Option 3: Partial rebuild and life extension by December 2020. Rebuild of balance by December 2044.	Rebuild southern section of the line by December 2020* Refit and paint northern section of the line by December 2020*	14.49*	0.015
	Rebuild northern section of line by December 2044†	16.02†	

*Proposed RIT-T projects
†Modelled projects

Evaluation and conclusion

The RIT-T requires that the proposed preferred option maximises the present value of net economic benefit, or minimises the net cost, to all those who produce, consume and transport electricity in the market.

In accordance with the approved RIT-T process, the PADR, published in January 2019, made a draft recommendation to implement Option 1. The RIT-T project for Option 1 involves refitting and painting the northern section of the line and refitting without painting the southern section of the line by December 2020, at an estimated capital cost of $9.98 million in 2018/19 prices. Powerlink is the proponent of the proposed network project.

As the outcomes of the economic analysis contained in the PACR remain unchanged from those published in the PADR, the draft recommendation has been adopted without change as the final recommendation, and will now be implemented.

In addition, Powerlink will:

- review and refine the timing of subsequent stages of this option, if required, based on future condition assessments of the risks arising from these lines remaining in service
- review and realign the strategy of the anticipated subsequent stages of this option, if required, based on future network topology requirements to meet forecast demand in the Rockhampton area and
- undertake any necessary additional regulatory consultations at the appropriate time for future investments if required.

Contact us

Registered office	33 Harold St Virginia Queensland 4014 Australia
Postal address:	GPO Box 1193 Virginia Queensland 4014 Australia
Contact:	Roger Smith Manager Network and Alternate Solutions
Telephone	(+617) 3860 2328 (during business hours)
Email	networkassessments@powerlink.com.au
Internet	www.powerlink.com.au