Powerlink Queensland

Summary of Project Assessment Conclusions Report

9 January 2019

Addressing the secondary systems condition risks at Belmont Substation

Summary

Belmont Substation is located in South East Queensland, approximately eleven kilometres south east of the Brisbane CBD, and forms part of Powerlink's transmission network supplying electricity to the Energex distribution network in the surrounding local area and south of Brisbane.

Several secondary systems at the Belmont Substation are reaching the end of their technical service life and are facing obsolescence with manufacturer support and spares no longer available.

Secondary systems include the control, protection and communications equipment that are necessary to operate the transmission network and prevent damage to primary systems when adverse events occur. Under the National Electricity Rules (the Rules), Transmission Network Service Providers (TNSPs) are required to provide sufficient secondary systems, including redundancies, to ensure the transmission system is adequately protected.

The deteriorated condition and obsolescence issues associated with the Belmont secondary systems presents Powerlink with operational and compliance issues, 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 ageing and obsolete secondary systems at Belmont Substation. 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 identified two credible network options to address the identified need, as presented in Table 1.

Table 1: Summary of credible options

Option	Description	Indicative capital cost ($million, 2017/18)	Indicative annual O&M costs ($million, 2017/18)
Base Option: Replacement with new panels in existing building	Replace obsolete secondary system panels within the existing secondary systems building, beginning early 2019 and completed by late 2020	8.6	0.017
Option 1: Replacement with new panels in prefabricated building	Replace obsolete secondary systems using a modular prefabricated building with new secondary systems installed. Installation on site and commissioning to occur by late 2021	9.6	0.017

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 expedited process for this RIT-T, the Project Specification Consultation Report (PSCR), published in September 2018, made a draft recommendation to implement the Base Option, replacement of obsolete secondary system panels within the free space of the existing secondary systems building, by December 2020. The estimated capital cost of the preferred option is $8.6 million in 2017/18 prices. Powerlink is the proponent of the proposed network project.

There were no submissions received in response to the PSCR.

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

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