



Powerlink Queensland

# Summary of Project Assessment Conclusions Report

9 January 2019

## **Addressing secondary systems condition risks at Abermain Substation**

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## Summary

Located in south-east Queensland, Abermain Substation is a major injection point into the Energex distribution network. Planning studies have confirmed there is an enduring need for the substation to maintain the supply of electricity in the Ipswich, Lockrose, Gatton and south western parts of Brisbane.

Most secondary systems at the Abermain Substation are reaching the end of their technical service life, and are no longer supported by the manufacturer, with few spares available.

Secondary systems are 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 protected.

This 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 Abermain 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, 2018/19)	Indicative average annual operating and maintenance costs (\$million, 2018/19)
Base Option: In-situ panel replacement by June 2021	Replacement of all secondary systems using pre-wired panels within an extended existing building by June 2021	6.91	0.04
Option 1: Full replacement in pre-fabricated by June 2021	Replacement of all secondary systems using a modular prefabricated building with new secondary systems installed by June 2021	6.76	0.04

## 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 Option 1, replacement of all ageing and obsolete secondary systems using a modular prefabricated building with new secondary systems installed by June 2021.

The estimated capital cost of the preferred option is \$6.76 million in 2018/19 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.



## 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	<a href="mailto:networkassessments@powerlink.com.au">networkassessments@powerlink.com.au</a>
Internet	<a href="http://www.powerlink.com.au">www.powerlink.com.au</a>