



Powerlink Queensland

# Summary of Project Assessment Conclusions Report

26 September 2018

## Maintaining reliability of supply to Ingham

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## Summary

Ingham South Substation was established in 2005 as a replacement for the original Ingham Substation. Two 132/66kV transformers connect the Powerlink substation to the Ergon Energy switchyard at Ingham supplying the local area. Both transformers are now over 50 years old, having previously been installed at other locations on the network.

The transformers (T1 and T2) are nearing the end of their technical service lives, with an increasing risk of failure. The failure of a transformer can result in an extensive replacement timeframe increasing the risk of loss of supply to the local area, and in extreme cases, could present a risk to the safety of personnel and members of the public.

Planning studies have confirmed there is an enduring need for the transformer capacity to maintain the supply of electricity in the Ingham area.

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 transformers at Ingham South 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 three credible network options to address the identified need, as presented in Table 1.

Table 1: Summary of credible options

Option	Description	Indicative capital cost (\$m, 2017/18)
Base option:	Refit both T1 and T2 in 2019, then replace both T1 & T2 in 2032	10.5
Option 1:	Replace T1 and refit T2 in 2019, then replace T2 in 2032	8.1
Option 2:	Replace both T1 and T2 in 2019	5.7

### 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 PSCR made a draft recommendation to implement Option 2, replacement of both transformers by December 2019. The estimated capital cost of the proposed preferred option is \$5.7 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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