

1 April 2026



# Maintaining Reliability of Supply at Tennyson

## Summary Project Specification Consultation Report



## Summary

### *The condition of Transformer 3 at Tennyson Substation requires Powerlink to take action*

The Tennyson Substation, established in 2001, is located approximately 6 kilometres south of the Brisbane central business district (CBD) and is a major injection point into the Energex distribution network for the southern Brisbane and CBD area. The condition of one of its three transformers (Transformer 3) could place the network at risk of operating with load at risk or not meeting all supply needs.

The preferred option is to replace Transformer 3 with a similar one. The alternate option of more regular maintenance where possible is not considered credible. This is because some critical activities (e.g. winding insulation refurbishment) are now no longer viable in Australia with very limited and costly capability.

### *Powerlink is required to apply the Regulatory Investment Test for Transmission (RIT-T)*

The estimated capital cost of the most expensive credible option to address primary plant risks at Tennyson Substation exceeds the minimum threshold (currently \$8 million) to apply the RIT-T. As the identified need for the proposed investment is to meet reliability and service standards specified within Powerlink's Transmission Authority, guidelines and standards published by the Australian Energy Market Operator (AEMO), and Powerlink's ongoing compliance with Schedule 5.1 of the National Electricity Rules (NER), it is classified as a reliability corrective action under the NER. The preferred option may therefore have a net economic cost.

Powerlink will adopt the expedited process for this RIT-T, as the estimated capital cost of the preferred option is below \$54 million – the upper threshold for applying the expedited process. The credible options are unlikely to result in any material market benefits other than those arising from a reduction in involuntary load shedding. This is included in the monetised risk modelling and represented in the economic analysis of the options.

### *Powerlink has developed a non-credible base case against which to compare credible options*

Powerlink has modelled a non-credible option where the transformer condition issues are managed via operational maintenance or operational measures only. This would result in an increase in overall risk levels due to continuing deterioration of its condition and increasing failure rectification timeframes. In addition, some faults may be terminal as the viable capability for repair is scarce or no longer available in Australia. This means a repair option involves an extended repair time, exposing the network to the reliability risk for this period. These increasing risk levels are assigned a monetary value and added to the ongoing maintenance costs to form the base case.

### *Powerlink has developed one credible network option to address the identified need*

The table below details the credible network option and shows that this option has a positive Net Present Value (NPV) relative to the base case.

### Summary of Credible Option

Option	Description	Total Costs (\$m, 2025)	NPV relative to non-credible base case (\$m)	Ranking
1	Like for like replacement of 110/33kV 80MVA Transformer 3 by October 2027.	9.69	7.24	1

*Note: Total costs exclude risk and contingency.*

#### *Powerlink welcomes the potential for non-network options to form part or all of the solution*

To enhance engagement outcomes, Powerlink proactively applies an engagement strategy to each RIT-T consultation. The scope of engagement activities undertaken is dependent upon various considerations, such as the characteristics and complexity of the identified need and potential credible options outlined in the [RIT-T stakeholder engagement matrix](#).

Powerlink welcomes submissions from proponents who consider they could offer a potential non-network option that is both economically and technically feasible, on an ongoing basis. To mitigate the impact of a Transformer 3 outage, a non-network solution would need to provide supply to the Energen system and load up to a peak of 190 megawatts (MW), and up to a peak of 2,000 megawatt hours (MWh) per day on a continuous basis.

#### *Lodging a submission with Powerlink*

Powerlink seeks written submissions on this Project Specification Consultation Report (PSCR), on or before, **30 June 2026**, particularly on the credible options presented in this PSCR. Submissions should be addressed to:

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