28 SEPTEMBER 2026

Maintaining Reliability of Supply at Tennyson

Summary Project Assessment Conclusions 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 commenced this RIT-T with the publication of a Project Specification Consultation Report (PSCR) in April 2026. The PSCR indicated that Powerlink would adopt the expedited process for this RIT-T, as allowed under the NER for RIT-T projects without material market benefits and where other conditions are met. No submissions were received in response to the PSCR by the due date of 30 June 2026. As a result, no additional credible options have been identified as a part of this RIT-T consultation.

This Project Assessment Conclusions Report (PACR) is the final step in the RIT-T process to address the transformer risks at Tennyson Substation. The PACR contains the results of the planning investigation and the cost-benefit analysis of credible options. The cost-benefit analysis uses a non-credible base case where the asset condition issues are managed via operational or maintenance measures. In this situation, risk levels increase over time due to deterioration of asset condition. The base case is used as a reference point to compare and rank the credible options against each other and reflects a situation which would result in an increase in overall risk levels due to continuing deterioration of asset condition and increasing failure rectification timeframes due to obsolescence issues.

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 ($m, 2025)	NPV relative to base case ($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.

Evaluation and conclusion

The RIT-T requires that the preferred option maximise the present value of economic benefits. If the identified need is for a reliability corrective action, the preferred option may have a net economic cost.

The cost-benefit analysis for this RIT-T demonstrates that Option 1, replacement of 110/33kV 80MVA Transformer 3 by October 2027, reduces the monetised risk and results in a positive NPV outcome relative to the base case. The indicative capital cost of Option 1 is $9.69 million in 2025 prices. Installation and commissioning of the new transformer is to be completed by October 2027.

Dispute Resolution

In accordance with clause 5.16B(a) of the NER, energy industry participants, the Australian Energy Market Commission, electricity consumers (including their representatives) may, by notice to the Australian Energy Regulator (AER), dispute conclusions made by Powerlink in this PACR in relation to:

- the application of the RIT-T;
- the basis on which Powerlink has classified the preferred option as a reliability corrective action; or
- Powerlink's assessment of whether the preferred option will have a material inter-network impact.

Notice of a dispute must be given to the AER within 30 days of the publication date of this report. Any parties raising a dispute are also required to simultaneously provide a copy of the dispute notice to Powerlink. Powerlink requests a copy of any dispute notice be sent by email (NetworkAssessments@powerlink.com.au) and marked for the attention of the Head of Legal Services.

Contact us

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