

6 MAY 2026



Maintaining Reliability of Supply at Townsville South

Summary Project Assessment Conclusions Report



Summary

Primary plant condition at Townsville South Substation requires Powerlink to act

The Townsville South Substation is located 11 kilometres south-east of the Townsville central business district and is a major injection point into the Ergon Energy distribution network for southern and eastern Townsville. The substation is also a transfer point for enabling the flow of electricity between Clare to the south and Townsville to the north. Planning studies confirm there is an enduring need for Townsville South Substation to maintain electricity supply and meet regulatory requirements.

The primary plant at Townsville South Substation – the equipment through which the electrical power passes – has been identified as being at risk of premature failure or is at the end of its technical service life with identified defects and obsolescence issues.

Powerlink must therefore take action to avoid the increasing likelihood of loss of power supply arising from failure of the primary plant at the substation and to ensure customers are provided with a safe and reliable supply of electricity.

Powerlink is reapplying the Regulatory Investment Test for Transmission to maintain reliability of supply at Townsville South

In 2018/19, Powerlink undertook a Regulatory Investment Test for Transmission (RIT-T) to address the condition risks arising from ageing primary plant at Townsville South Substation. The preferred option in the Project Assessment Conclusions Report (PACR) was staged replacement of selected primary plant using live tank circuit breakers. The PACR indicated completion was planned by December 2022 at an estimated capital cost of \$4.94 million in 2018/19 prices.

Following completion of the RIT-T, constrained availability of field resources during the COVID-19 pandemic delayed project delivery. During this time, the condition of the primary plant further deteriorated, resulting in Powerlink implementing a number of Restricted Access Zones (RAZs) to maintain safety at the substation. Powerlink also encountered early failures in equipment at the substation, including particular current transformer and voltage transformer models. Powerlink has mitigated highest increased asset risks through priority replacement works allowing rectification of RAZs as well as interim operational measures, including additional inspections and maintenance.

The original scope of the project has been expanded to address ongoing reliability risks identified since the initial RIT-T. Initially, the project scope involved replacing seven circuit breakers with live tank models, while retaining the existing current transformers in those bays. However, it has since been identified that these current transformers are prone to premature failure and now require replacement. As a result, the preferred option has shifted to installing dead tank circuit breakers, which integrate current transformers within the unit. Additionally, the scope has been expanded to include the replacement of further voltage transformers that have also demonstrated premature failure.

Powerlink considers the change in preferred option to be a material change of circumstances under the RIT-T framework set out in the National Electricity Rules (NER) and is reapplying the RIT-T to maintain reliability of supply to Townsville South.

Powerlink commenced this RIT-T with the publication of a Project Specification Consultation Report (PSCR) in December 2025. No submissions were received in response to the PSCR by the due date of 10 April 2026. As a result, no additional credible options have been identified as a part of this RIT-T consultation.

This PACR is the final step in the RIT-T process to address the primary plant risks at Townsville South 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 and increasing failure rectification timeframes due to obsolescence issues. Credible options are compared to the base case allowing ranking of credible options.

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. Further credible options were initially considered in Powerlink’s first RIT-T, however due to identification of additional equipment reliability risks, only one credible option remains.

Summary of Credible Option

Option	Description	Total Costs (\$m, 2025)	NPV relative to base case (\$m)	Ranking
1	Single stage replacement utilising dead tank circuit breakers by December 2027.	20.23	27.28	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, single stage replacement utilising dead tank circuit breakers, reduces the monetised risk and results in a positive NPV outcome relative to the base case. The indicative capital cost of Option 1 is \$20.23 million in 2024/25 prices. Installation and commissioning of the new primary plant is to be completed by December 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

Registered office	33 Harold St Virginia Queensland 4014 ABN 82 078 849 233
Postal address	PO Box 1193 Virginia Queensland 4014
Telephone	+61 7 3860 2111 (during business hours)
Email	pqenquiries@powerlink.com.au
Website	powerlink.com.au

Social

