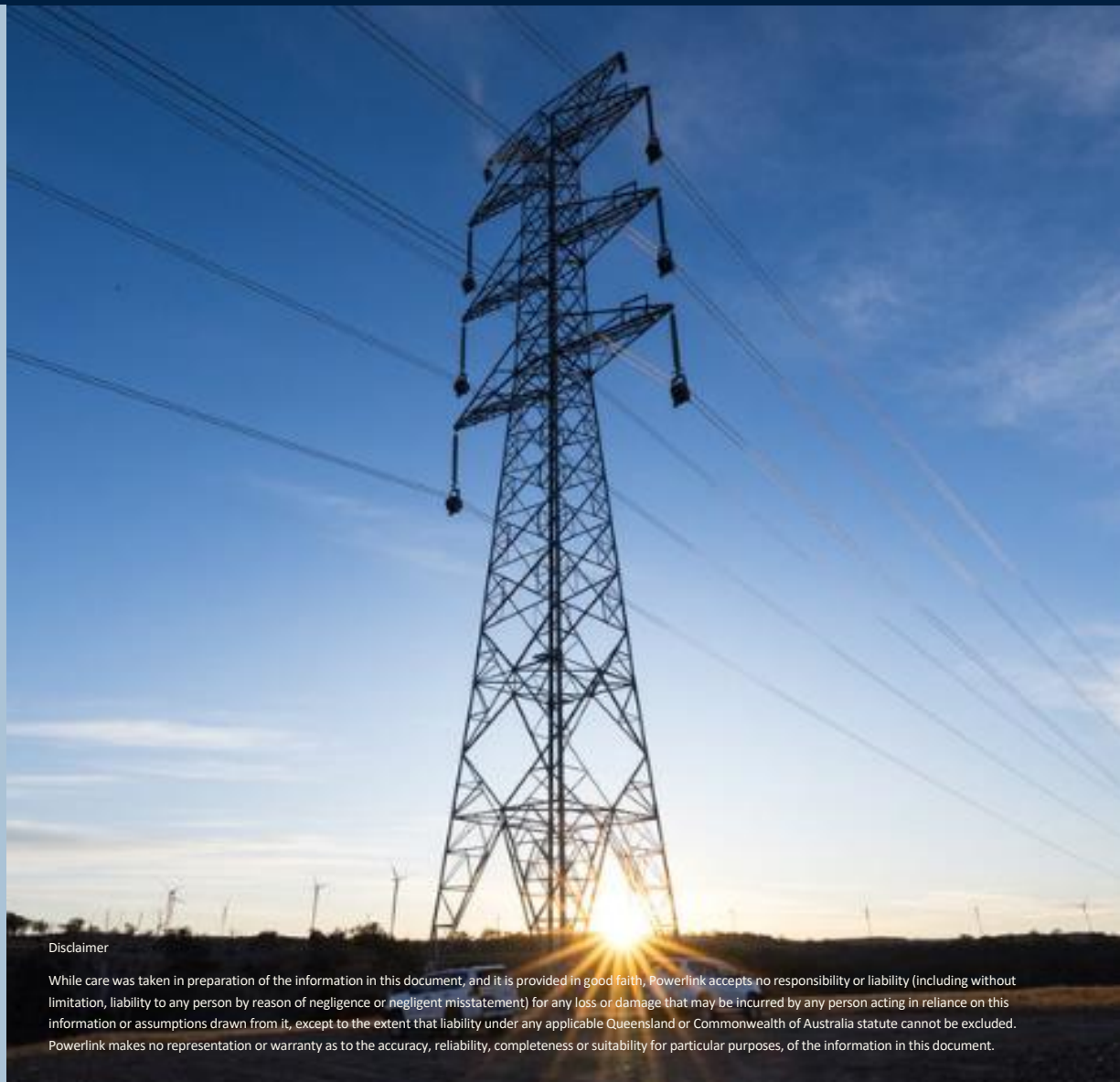




Maintaining reliability of supply to Mansfield

Project Assessment Conclusions Report Summary



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Summary

The deteriorating condition of the underground cables and associated transformers between Belmont Substation and its Mansfield site requires Powerlink to take action.

Powerlink owns and maintains a site at Mansfield adjacent to Belmont Substation, located in South East Queensland, approximately eleven kilometres south east of the Brisbane CBD. The site has been identified for ongoing use by Powerlink, and there is a long-term requirement to continue the existing electricity services currently provided to the site by Belmont Substation.

Two 11kV underground cables, two auxiliary transformers, and two station service transformers connect Belmont Substation to the Mansfield site. The two 11kV cables are original cables from 1971 that have been repaired after previously suffering significant damage, and have reached the end of their economic life. Both auxiliary transformers are over forty years old, and are not compatible with modern cable termination technology. The two station services transformers are also at the end of their technical life.

The condition of the underground cables and associated transformers present a range of safety, reliability of supply and compliance risks, requiring Powerlink to take action.

Powerlink is required to apply the Regulatory Investment Test for Transmission

The estimated capital cost of the most expensive credible option to maintain reliability of supply to the Mansfield site meets the minimum threshold (currently \$8 million) to apply the Regulatory Investment Test for Transmission (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 identified need is not discussed in AEMO's most recent [Integrated System Plan](#) (ISP) and is therefore subject to the application and consultation process for RIT-T projects that are not actionable ISP projects.

Powerlink commenced this RIT-T with the publication of a Project Specification Consultation Report (PSCR) in September 2024 to outline the risks and obsolescence issues arising from the condition of the underground cables and associated transformers at Belmont Substation. No submissions were received in response to the PSCR by the due date of 20 December 2024. 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 safety, reliability of supply and compliance risks at the Mansfield site. The PACR contains the results of the planning investigation and the cost-benefit analysis of credible options compared to a non-credible base case where the asset condition issues are managed via operational maintenance or operational measures only. The base case is used as a reference point to compare and rank the credible options against each other, and reflects a 'state of the world' 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.¹

¹ See AER, *Regulatory Investment Test for Transmission*, November 2024, paragraph 24 and AER, *Application Guidelines, Regulatory Investment Test for Transmission*, November 2024, pages 32-35 for a definition and discussion of states of the world in a RIT-T.

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

Option 1 involves the replacement of the two 11kV underground cables and associated transformers. The table below shows that Option 1 have a negative Net Present Value (NPV) relative to the base case, as allowed for a reliability corrective action RIT-T.

Summary of Credible Option

Option	Description	Indicative Capital Cost (\$m)	Central scenario NPV relative to Base Case (\$m)	Ranking
Base Case	No capital expenditure. Operation Maintenance Cost excluding irreparable damages. Risk Cost include risks resulting from irreparable damages.			
1	Two 11kV underground cables and associated transformers replacement by December 2026	14.8	-11.9	1

Evaluation and conclusion

The RIT-T requires that the preferred option maximise the present value of economic benefits, taking into account changes to Australia's greenhouse gas emissions where relevant. If the identified need is for a reliability corrective action, the preferred option may have a net economic cost.

Option 1 is the only credible network option which addresses the major risks resulting from the deteriorating condition of the 11kV cables and associated transformers and is therefore the preferred option.

The indicative capital cost of Option 1 is \$14.8 million in 2023/24 prices.

As the outcomes of the cost-benefit analysis contained in this PACR remain unchanged from those published in the PSCR, the draft recommendation has been adopted as the final recommendation and will now be implemented. Commissioning of the new underground cables and associated transformers will be completed by December 2026.

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.



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