SEPTEMBER 2024

Maintaining reliability of supply to Mansfield

Summary of Project Specification Consultation Report

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 $7 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 will adopt the expedited process for non-ISP projects for this RIT-T, as the estimated capital cost of the preferred option is below $46 million, and is unlikely to result in any material market benefits other than those arising from a reduction in involuntary load shedding. The reduction in involuntary load shedding under the credible network options is included in the risk cost 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 asset condition issues are managed via operational maintenance or operational measures only. This results in an increase in overall risk levels as the condition of the asset deteriorates over time and an increase in failure rectification timeframes due to obsolescence issues. 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 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	Total Capital Costs ($m)	Central scenario NPV relative to Base Case ($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

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

Non-network options are not expected to address the identified need for this RIT-T

Powerlink does not consider non-network options are able to meet the identified need to maintain reliability of supply to Mansfield. The two 11kV underground cables provide direct communication links between Belmont Substation and Powerlink's Mansfield site which a non-network solution would be unable to meet.

Lodging a submission with Powerlink

Powerlink is seeking written submissions on this Project Specification Consultation Report (PSCR), on or before **20 December 2024**, particularly on the credible option presented in the PSCR.

Please address submissions to:

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