



Addressing the secondary systems condition risks at Sumner

Summary of Project Specification Consultation Report



Summary

Ageing and obsolete secondary systems at Sumner Substation require Powerlink to take action

Sumner Substation was established in 2006 as a 110 kilovolt (kV) switching station to meet the increasing demand in the western suburbs of Brisbane. Planning studies have confirmed there is a long-term requirement to continue to supply the existing electricity services provided by Sumner Substation.

The secondary systems at Sumner broadly perform the functions of transmission element protection, data collection, remote (and local) control and monitoring. The majority of Sumner's secondary systems will reach the end of their technical service lives by June 2026, with only limited manufacturer support and spares available after this time. Over 80% of the 110kV secondary systems equipment is expected to reach an unsupportable level by June 2026.

Increasing failure rates, along with the increased time to rectify faults due to the obsolescence of the equipment, significantly affects the availability and reliability of these systems and their ability to continue to meet the requirements of the National Electricity Rules (NER). Powerlink must therefore take action to ensure ongoing compliance with the NER.

Powerlink is required to apply the Regulatory Investment Test for Transmission

The estimated capital cost of the most expensive credible option to address secondary system risks at Sumner 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 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 consequentially 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 due to continuing deterioration of asset condition and increasing 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 two credible network options to address the identified need

The table below details the credible network options and shows that both options have a negative Net Present Value (NPV) relative to the base case, as allowed for under the NER for reliability corrective actions. Of the credible network options, Option 1 has the highest NPV relative to the base case.

Summary of Credible Options

Option	Description	Total Costs (\$m, 2023)	NPV relative to base case (\$m, 2023)	Ranking
1	In-panel replacement of selected 110kV secondary systems into existing panels by December 2025	8.1	-4.9	1
2	Single stage replacement of all 110kV secondary systems into a new demountable building by December 2025	11.3	-7.6	2

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](#). Due to the nature of secondary systems, Powerlink is of the view that it is unlikely for there to be an economically and technically feasible non-network option to meet the identified need in this RIT-T. As such, Powerlink will apply the 'minor' engagement level to this RIT-T.

A non-network option that avoids the proposed replacement of the ageing and obsolete secondary systems would need to replicate, in part or full, the support that Sumner Substation delivers to customers in the area on a cost-effective basis. Powerlink welcomes submissions from proponents who consider they could offer a potential non-network option that is both economically and technically feasible by June 2026, on an ongoing basis.

Lodging a submission with Powerlink

Powerlink is seeking written submissions on this Project Specification Consultation Report (PSCR), on or before **Friday, 17 May 2024**, particularly on the credible options presented in this PSCR.

Please address submissions to:

Sarah Gilmour
 Manager Network and Alternate Solutions
 Powerlink Queensland
 PO Box 1193
 VIRGINIA QLD 4014
 Telephone: (07) 3860 2111
 Email: networkassessments@powerlink.com.au



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	   