



Addressing the secondary system condition risks at Sumner

Summary of Project Assessment Conclusions Report



Disclaimer

While care was taken in preparation of the information in this document, and it is provided in good faith, Powerlink accepts no responsibility or liability (including without limitation, liability to any person by reason of negligence or negligent misstatement) for any loss or damage that may be incurred by any person acting in reliance on this information or assumptions drawn from it, except to the extent that liability under any applicable Queensland or Commonwealth of Australia statute cannot be excluded. Powerlink makes no representation or warranty as to the accuracy, reliability, completeness or suitability for particular purposes, of the information in this document.

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 commenced this RIT-T with the publication of a Project Specification Consultation Report (PSCR) in February 2024 to outline the risks and obsolescence issues arising from the condition of the secondary systems at Sumner Substation. No submissions were received in response to the PSCR by the due date of 12 May 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 secondary system risks at Sumner. 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*, August 2020, paragraph 24 and AER, *Application Guidelines, Regulatory Investment Test for Transmission*, October 2023, pages 33-35 for a definition and discussion of states of the world in a RIT-T.

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

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.

The cost-benefit analysis for this RIT-T demonstrates that Option 1, the in-panel replacement of selected 110kV secondary systems into existing panels, provides the lowest net economic cost in NPV terms and is therefore the preferred option. The indicative capital cost of Option 1 is \$8.1 million in 2023/24 prices. Design work will commence in 2024, with installation and commissioning of the new secondary systems completed by December 2025.

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.



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

