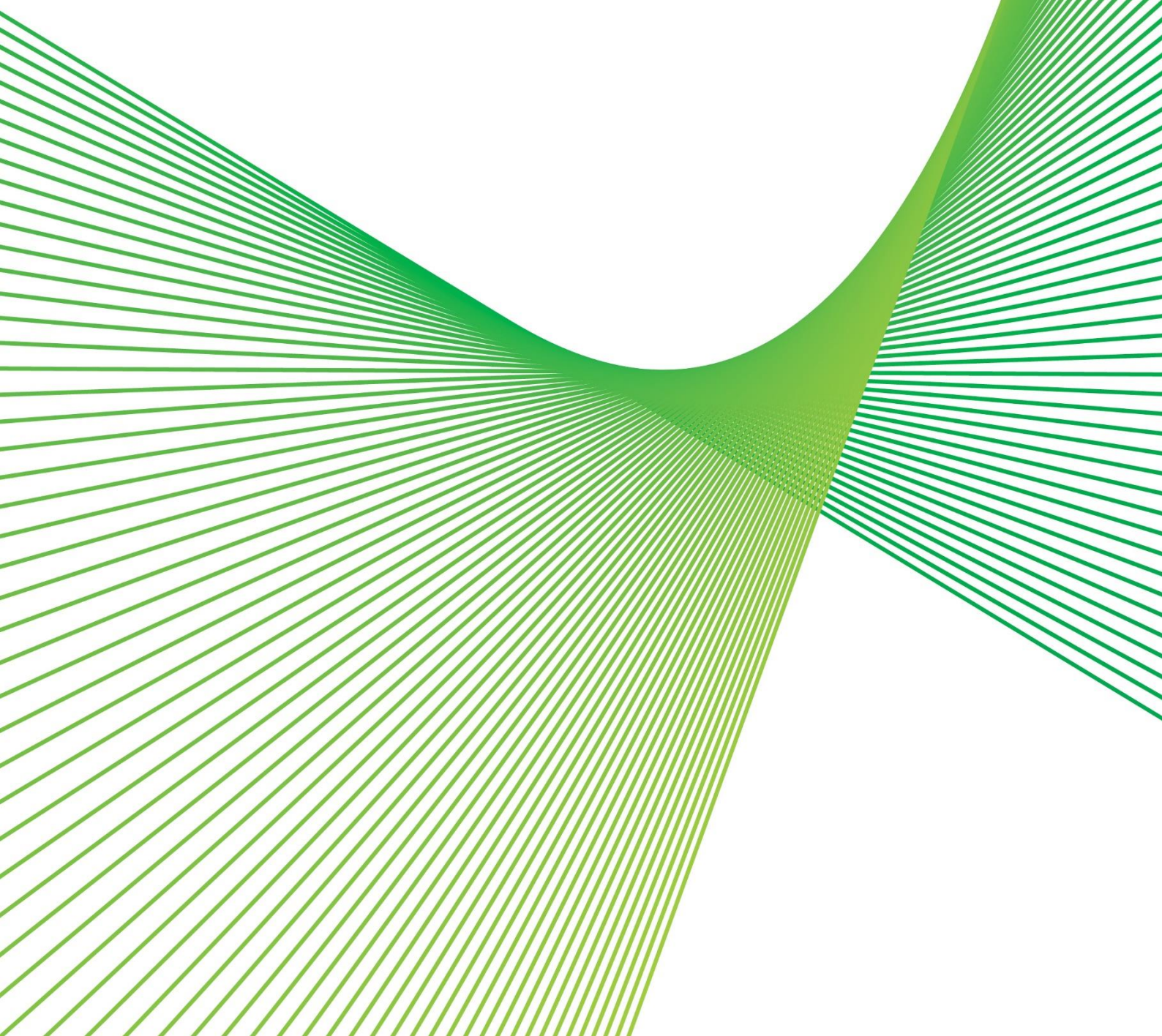


Improving Stability in Southwest New South Wales

Notice of Change to Non-Network Option

Region: Southwest New South Wales

Date of issue: 12 December 2023



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Notice of Change to Non-Network Option

This notice informs stakeholders of a change in the preferred project option to improve system stability in Southwest New South Wales (SW NSW). Initially, the preferred project option presented within the SW NSW Project Assessment Conclusion Report (PACR) involved a temporary battery solution and then the implementation of a new transmission line. This option has been superseded by a new non-network standalone battery option that leverages already existing assets.

Background

Transgrid's system studies demonstrate that the 132 kV system in SW NSW can experience significant stability issues during an outage of Line 63 (the 330 kV transmission line from Darlington Point to Wagga Wagga). These issues can manifest as fast voltage collapses, thermal overloads, and under-voltage. This deterioration in system stability is being driven by the increased levels of renewable generation in the area.

Based on Transgrid's advice, the Australian Energy Market Operator created a constraint in the National Electricity Market's Dispatch Engine on 8 May 2020. This constraint limits power flows on Line 63 to minimise the risk of voltage collapse at Darlington Point. The limit for power flows east is approximately 300 MW (although this limit varies with power system conditions). However, with new renewable generators continuing to be commissioned in SW NSW, the power flow is now reaching this 300 MW limit regularly during daytime. As a result, generators operating in this region are restricted in their energy production.

To investigate if this situation can be ameliorated Transgrid performed a Regulatory Investment Test for Transmission (RIT-T). This test assessed different project options based on their ability to improve generation connection to the SW NSW transmission network relative to cost. On 15 June 2022 Transgrid published a [Project Assessment Conclusion Report](#) (PACR) which serves as the final step in the application of the RIT-T process.

Project Assessment Conclusion Report

Within the PACR, it was deemed that the best way to alleviate this transmission constraint was to utilise an interim 3-year Battery Energy Storage System (BESS) prior to introducing a new 330kV transmission line. This new transmission line would run between Darlington Point and the new Dinawan substation being constructed for Project Energy Connect.

No issues were raised by stakeholders during the 30-day dispute period immediately following the publication of the PACR on 15 June 2022.

Developments Since PACR Submission

After the publication of the PACR, two new additional project options were conceived. The first additional option was the same as the initial preferred option except with a 6-year interim battery solution. The second additional option focused on the long-term use of a standalone BESS that leverages already existing assets. Detailed modelling by HoustonKemp found that this new standalone battery option was expected to deliver the largest benefits to consumers and producers from all options considered.

Given that this new preferred option involves no modifications to the transmission network, Transgrid sought permission from the Australian Energy Regulator to not create and publish a second PACR. Transgrid applied for permission on 10 August 2023 and received confirmation back from the AER on 1

November 2023 that no additional PACR was required so long as stakeholders were informed about the development of a new preferred option.

Summary

Transgrid will improve system stability in SW NSW using a long-term BESS that leverages already existing assets. As this project option is a non-network solution, the AER has granted Transgrid permission to not create a new PACR. Future updates relating to system reliability in SW NSW will be reviewed on an annual basis as part of the Transmission Annual Planning Report.

Further information can be obtained by contacting Transgrid's Regulation team via regulatory.consultation@transgrid.com.au.¹

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