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To whom it may concern,

Consultation Submission: 'Increasing Capacity for Generation in Wagga North Area' RIT-T Project Specification Consultation Report

Spark Renewables Pty Limited (Spark Renewables) is pleased to provide a submission in response to the 'Increasing Capacity for Generation in Wagga North Area' RIT-T Project Specification Consultation Report (PSCR) that Transgrid has released for consultation on 19th December 2024.

Spark Renewables is a leading developer, long-term owner, and operator of renewable energy projects in the National Electricity Market (NEM). It has a significant development portfolio consisting of wind, solar, and storage projects. The company's portfolio includes Bomen Solar Farm, operational since 2020, as well as a number of mid to late-stage developments of solar, wind and battery energy storage system projects across the NEM.

Spark Renewables recognises the importance of addressing the thermal constraints on Lines 9R5 and 9R6 to ensure the efficient and reliable operation of the NEM and supports the identified need (as described in Section 2.2) to improve capacity for renewable generation in the Wagga North area to unlock greater output from renewable energy sources in the region. We strongly support this project, which seeks to provide net benefits to the market (as per Section 2).

Background

Spark Renewables has analysed publicly available data regarding generation curtailment for generators connected to Wagga North Substation, and this data reinforces the need for the proposed lines 9R5 and 9R6 upgrade project.

This analysis reveals that between September 2023 and March 2024, the regionally aggregated lost revenue estimate for these projects reached approximately $8.9 million. Furthermore, it is estimated that 125,996 megawatt-hours (enough to power roughly 18,450 Australian homes for a year) was curtailed, which would have otherwise been supplied to the grid, ultimately reducing electricity prices for NSW consumers via renewable generation. Without intervention, it is expected that these figures will grow as further generating capacity has come online since that period, and these losses would be experienced on an ongoing basis. This data underscores the urgency and potential benefits of addressing the identified need.

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While Spark Renewables acknowledges the four credible network options presented in the PSCR (summarised in Table E-1), it would like to express its strong preference for Option 2: Restringing Lines 9R5 and 9R6 with a high-temperature conductor operating at 180°C (as detailed in Section 3.3). Spark Renewables believes this option offers the most compelling solution.

It provides the largest immediate capacity increase (to at least 223 MVA) among the quick-delivery options, effectively minimising curtailment in the shortest timeframe. The commissioning is targeted for 2027-28, offering a faster resolution than constructing new lines and making it the most cost-effective network solution. Spark Renewables believes that Option 2 strikes an optimal balance between effectiveness, cost, community impact, and timely implementation. We encourage Transgrid to carefully consider these factors as it proceeds with the RIT-T assessment process and the PADR analysis as mentioned in Section 5. The several compelling advantages of Option 2 are further elaborated below.

Direct Resolution of Capacity Limitation

By upgrading the existing lines (9R5 and 9R6) to increase their transfer capacity to at least 223 MVA, Option 2 directly addresses the identified problem (Section 2.3.2), thereby alleviating the thermal constraints. This targeted approach ensures that the existing infrastructure is optimised to meet the growing demands of renewable generation in the region, without the need for extensive new infrastructure.

Minimised Community Impact

Restringing the existing lines is likely to have a lower impact on the community compared to constructing new transmission lines (Options 3 and 4). Utilising existing easements and infrastructure reduces the need for new land acquisition and minimises construction-related disruptions, such as noise, traffic, and visual impacts. This approach aligns with sustainable development principles and demonstrates consideration for the local community.

Cost-Effectiveness

The lower estimated capital cost of Option 2, at $12.5 million (+/- 25%) as per Table E-1, translates to a more cost-effective solution for electricity consumers in the long run. By minimising capital expenditure, Option 2 helps to control electricity prices and ensures that the benefits of increased renewable generation are passed on to consumers in an economically responsible manner.

Timely Implementation

With an expected delivery timeframe of 2027-28, Option 2 offers a faster resolution to the identified problem compared to Options 3 and 4. This expedited timeline allows for earlier realisation of the benefits associated with increased renewable generation capacity, contributing to a more rapid transition to a cleaner energy future. A faster implementation also reduces the period of constraint and associated market inefficiencies.

Robust Availability

Compared to non-network options such as Battery Energy Storage Systems (BESS), as discussed in Section 4, a network solution like Option 2 offers more robust availability. While BESS solutions can

provide valuable support, their output can be affected by factors such as state of charge, ambient temperature, and operational strategies. A network upgrade provides a more reliable and predictable increase in transmission capacity, ensuring a more stable and dependable supply of electricity. This inherent reliability is a key advantage in maintaining grid stability and supporting the integration of intermittent renewable energy sources.

Comparison with Other Options

While Spark Renewables acknowledges the merits of the other options presented, a closer examination reveals that Option 2 provides a more compelling solution to address the immediate needs.

Option 1, ACSR/GZ Restringing (85°C), while also deliverable by 2027-28, provides a smaller capacity increase (169 MVA), which may be less beneficial for generators experiencing significant curtailment.

Option 3, a New Double-Circuit Line, offers the highest long-term capacity for future growth; however, commissioning by 2030-31 may be too late to provide immediate curtailment relief.

Option 4, a New Single-Circuit Line increases capacity and supports future demand, but commissioning by 2029-30 makes it less appealing for addressing current curtailment.

The Non-Network Option, BESS, while potentially deployable by 2026-27, providing quicker relief, may not be the most cost-effective solution due to potentially high implementation costs and limited scalability for future generation growth. Its potentially high costs, limited scalability, misalignment with generator needs, and lack of permanent capacity increases make it less suitable as a standalone solution. It may best complement network solutions, providing interim relief while awaiting the completion of infrastructure upgrades.

Closing Comments

Spark Renewables looks forward to the publication of the Project Assessment Draft Report (PADR) and the opportunity to further engage with Transgrid on this important project.

Should there be any questions or desired further discussion regarding this submission, please do not hesitate to reach out to me either via mobile or email, per the contact details in my signature below.

Sincerely,

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