

18th May, 2026

Submitted electronically to REZ@aer.gov.au

Transgrid System Strength Project (hybrid) proposal 2026-31

The Justice and Equity Centre (JEC) welcomes the opportunity to respond to the Australian Energy Regulator's (AER) consultation on Transgrid's System Strength Project (hybrid) revenue proposal (the proposal).

The JEC strongly encourages close scrutiny of the proposal to ensure all prudent action has been taken by Transgrid to minimise project costs and manage any potential risks to NSW consumers arising from the project.

Context for considering prudent system strength responses

Maintaining a securely operating energy system through the transition from a largely mechanically driven energy system one to one characterised by reliance on power electronics, is a challenge for NSPs, market institutions and Governments. Ad-hoc thermal generator retirements and diminishing system load result in unpredictable and stepwise gaps in system strength, but the lead-time for established solutions (such as synchronous condensers) to be identified and enacted means 'just-in-time' investment decisions on solutions would leave consumers and markets exposed to unacceptable risk.

However, equally significant risks to consumers result from locking in inflexible, costly solutions with long asset lives.

In the immediate to medium term, the faster and most cost-effective mechanical option for providing system strength for NSW is likely to be adding clutches to existing synchronous generators, enabling them to operate in condensing mode.

Within a decade, the quantum and maturity of battery energy storage systems and other inverter-based resources will almost certainly render them the most effective option for new system security services. Indeed, it is possible - as with large thermal generators - that these services will be able to be procured almost as a byproduct of operation or with relatively trivial marginal cost. In JEC's view, market-based measures will by then be a more effective and lower cost means of procuring (any amount of) system strength. This assessment has – or should have - implications for system strength decisions now.

As it stands, TNSPs have weak incentives to choose these options over more expensive network-based synchronous condenser solutions. The cost risk this presents to consumers is

exacerbated by the long lead time required to complete condenser-based solutions and the long regulated asset lives involved.

All of this indicates that decisions on system strength solutions should broadly seek to ensure synchronous condensers are deployed only where there aren't better options, and only to the degree a long-term need can be robustly established.

Specific considerations for this project

The JEC has closely observed the trajectory of this project through various iterations and changes in circumstances over recent years, culminating in this proposal.

In addition to our earlier comments on developments in technology and practice we note:

- The delayed retirement of Eraring materially impacts considerations of system strength risks and has deferred the identified system strength gap in NSW. This should trigger a re-evaluation and, at the very least afford more time to find efficient solutions and reduce dependence on expensive, long-lived mechanical options this decade.
- The supply chain for synchronous condensers is extremely constrained relative to burgeoning international demand. This is driving up both lead times and cost and eroding - in whole or part – any assessed benefit they may have had over alternatives.
- Transgrid's recent track record - including that set out in their request to reopen their 2023-28 revenue proposal - is one of repeatedly failing to meet reasonable expectations for prudent and efficient management of projects. This includes demonstrating exceptionally poor performance in infrastructure costing and cost management. This is directly relevant to assessment of prudence and efficiency in delivering this project.

This project also demonstrates serious flaws in the interaction of regulatory regimes at the NSW and NEM level which allow scope for apparent regulatory 'cherry-picking', where robust requirements of one regime – such as transparent processes to assess and identify need and the most efficient response to it – are undermined, or can be circumvented by pursuing action under the other. This does not serve the interests of NSW consumers.

Implications for this decision

While the proposed synchronous condensers will support system strength, there is a very high likelihood the proposal exceeds any reasonably identified need, and that they will become a an expensive redundant asset under regulatory arrangements that transfer that cost and risk in entirety to consumers. At the very least they have a high likelihood of being grossly and inefficiently underutilised at high and unnecessary cost to NSW consumers.

Given the context proceeding with a much smaller number of synchronous condensers would appear to a more low-regret 'insurance' option to address demonstrated needs, while

protecting NSW consumers from the larger costs associated with delivering the full project now.

We understand the relatively limited remit of the AER in this process, restricted to ensuring Transgrid acts prudently and efficiently in executing the direction the project responds to. To this end, we reiterate our concern at Transgrid's lack of strong incentive to minimise the capital costs associated with this project and strongly encourage the AER to undertake a robust and detailed assessment of Transgrid's actions to ensure they represent prudent practice in the management and minimisation of costs.

We would welcome the opportunity to meet with the AER project team and other stakeholders to discuss these and other related issues in more depth. Please contact Douglas McCloskey at dmccloskey@jec.org.au regarding any further inquiries.

Yours sincerely

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