

31 July 2026

Regulation Team

Transgrid

By email: regulatory.consultation@transgrid.com.au

Re: Submission on the draft Material Change in Circumstances assessment - Meeting System Strength Requirements in NSW (1 July 2026)

To the Transgrid Regulation Team,

1. Introduction and interest

Castle Group Group welcomes the opportunity to respond to Transgrid's draft Material Change in Circumstances (MCC) assessment for the Meeting System Strength Requirements in New South Wales (NSW) Regulatory Investment Test for Transmission (RIT-T).

Castle Group is a founder-led, diversified group operating across property, energy, digital infrastructure and hospitality. Founded in 2007, we have evolved from a strong property development platform, drawing on our experience in strategic site acquisition, complex planning, capital structuring and project delivery to build new capabilities in sectors critical to Australia's future. Since 2024, the Group has expanded into energy and digital infrastructure, with a focus on strategically located land, large-scale battery storage, data infrastructure and complementary uses that support innovation, economic growth and long-term infrastructure resilience. Castle Group brings the commercial discipline, capital capability and execution experience required to progress complex projects involving governments, regulators, network service providers, technical specialists, capital partners and local communities.

Castle Group is building a portfolio of strategically located battery storage projects designed to support a stronger, more reliable and increasingly renewable electricity system, and holds a distinctive position in the location of need as identified in the draft MCCA.

We are developing a 1,000 MW / 4,000 MWh four-hour, grid-forming battery energy storage system (BESS) at Kemps Creek, at the identified Western Sydney system strength node and targeting commercial operation on 1 January 2030, with a second four-hour grid-forming battery of up to 900 MW / 3,600 MWh at Regentville in the same electrical area, and further BESS sites of significant scale and grid forming potential on the corridors toward Newcastle and to the south. The Investment Delivery Authority has endorsed the developments at Kemps Creek and Regentville as projects of strategic significance. We therefore see the reassessment from the position of a credible, well-located provider of exactly the non-network capability the draft now proposes to rely upon.

Our submission makes five points:

1. We support the reassessment and the draft's preferred option 3b.
2. The expanded role for grid-forming BESS at the minimum level is well-founded and should be preserved.
3. Castle Group's portfolio is a credible non-network counterparty for the additional grid-forming pathway the draft invites, and should be assessed - as a portfolio, and ahead of the Phase 2 contingent project application - for that role.

4. The minimum-level credibility question is legitimate, and Castle Group offers to help resolve it rather than assume it away.
5. System strength can be provided alongside normal market operation, as the draft's own preferred contracting model reflects.

Above all, we ask Transgrid to engage with us now, ahead of the final assessment, so that a robust assessment can be made with confidence.

2. We support the reassessment and the draft's preferred option 3b

Castle Group supports Transgrid's decision to reassess the preferred portfolio and supports the draft's conclusion.

The evidence for leaning further on grid-forming BESS has strengthened materially since the Project Assessment Conclusions Report (the PACR). The first five ('Phase 1') synchronous condensers have been awarded at a total of A\$1.13 billion, about A\$225 million per site - some 38 per cent above the approximately A\$163 million per site modelled in the PACR - and the remaining ('Phase 2') machines are now expected at about A\$324 million per site, with further supply-chain pressure flagged. Delivery of the first Phase 2 machine has moved to around FY34, and NSW coal retirements have been deferred.

Against that background, reducing Phase 2 synchronous condensers from five to three and introducing 900 MW of grid-forming BESS for the minimum level of system strength in the Sydney West region is a sound and robust response - preferred, as the draft shows, under both coal-retirement scenarios, both synchronous condenser delivery timings and every tested sensitivity. Because every adequate portfolio captures the same large avoided-curtailment benefit, the credible options are closely ranked; option 3b is preferred as the least-cost among them, delivering approximately A\$467 million more in net market benefit than the best portfolio without grid-forming BESS - and remaining preferred over the next-best option - by avoiding a fourth synchronous condenser and reducing gas and hydro re-dispatch.

We note that this substitution occurs precisely where Castle Group's portfolio connects. Under the PACR, the synchronous condensers serving the Sydney West node were sited at Kemps Creek, after site constraints ruled out the Sydney West substation itself. Under the draft's own order of preference for Phase 2 sites, the two machines no longer proceeding are those ranked fourth and fifth - Waratah West and Kemps Creek - with the Sydney West node's incremental minimum-level need met instead by grid-forming BESS in the same electrical area. The draft therefore replaces a machine that would have stood at Kemps Creek with a non-network service to be procured in that neighbourhood, and it is there that Castle Group's anchor site connects.

The reassessment also reduces reliance on a costly fallback. Where grid-forming BESS is not available, the draft relies on gas and hydro re-dispatch; as the draft notes, 88 per cent of the gas capacity contributing to the Sydney West and Newcastle nodes is open-cycle plant, ill-suited to sustained system strength operation. Synchronous condenser cost and lead-time risk, by contrast, runs in one direction only. Each further increment of that cost or delay strengthens the case for grid-forming capacity already progressing through the connection process, and confirms the prudence of the draft's direction.

3. Castle Group's portfolio should be assessed, as a portfolio, ahead of any possible Phase 2 contingent project application

The draft identifies that approximately 950 MW of additional grid-forming BESS provides the equivalent fault current to one minimum-level Phase 2 synchronous condenser, and that if such capacity emerges in the Sydney and Newcastle region with evidence confirming its credibility, the preferred portfolio could be revised to reduce Phase 2 synchronous condensers further - provided such options are assessed and selected before Transgrid lodges its Phase 2 contingent project application (CPA). Castle Group responds to that invitation directly.

The need is nodal and additive. As Transgrid's guidance for non-network proponents explains, a solution's contribution to a system strength node is its published effectiveness factor multiplied by its fault-current contribution at its point of connection, and the draft's own criteria contemplate a solution displacing synchronous condensers "individually or as a portfolio with other solutions". Nothing in the framework requires the 950 MW to be delivered at a single site.

Castle Group's portfolio maps onto both of the nodes the draft names. Kemps Creek and Regentville, with a further site, sit at or electrically close to the Sydney West node - the node the draft identifies as carrying the most critical minimum-level requirements - while our Central Coast site serves the Newcastle end of the need. The draft's Table 20, which sizes synchronous machines operating in condenser mode by location, is a direct measure of this locational value: to match one Phase 2 synchronous condenser's contribution to the Sydney West node, a solution at Kemps Creek requires the least capacity of any location listed - 450 MW, against 950 MW at Armidale and 1,700 MW at Darlington Point. We do not assert specific effectiveness factors for our own sites; we ask instead that Transgrid apply its published effectiveness factors to Castle Group's connection points as part of the assessment.

Assessing the projects individually and collectively is consistent with the draft's own treatment of synchronous condensers within the Sydney West, Newcastle and Hunter Valley regions as broadly interchangeable: what matters is the summed, effectiveness-weighted fault current delivered to each node, not the configuration of the assets providing it. A multi-site portfolio can offer the diversity that a single machine cannot, since the service survives any single site or circuit outage.

What matters most now is sequence. For this assessment to be made properly, it must occur before the Phase 2 CPA is lodged. We therefore ask Transgrid to define and publish, at or alongside the final assessment, the window, process and evidence requirements for additional non-network options, and to open engagement with Castle Group without delay. The specifications and site detail supporting this request are provided in confidence at Annex A.

4. The minimum-level credibility question is legitimate, and Castle Group offers to help resolve it

Castle Group acknowledges, the basis on which the draft treats grid-forming BESS as not yet credible for the minimum fault level: AEMO's stated position that provision of protection-quality fault current remains a key limitation of the technology; the Aurecon (2024) advice on credibility timing; and the Etik Energy (2025) fault-current analysis. The question has also been the subject of a formal dispute on the PACR. This is a rapidly evolving landscape and technology progression has occurred since the relevant reports were released. There are working examples of BESS providing system strength services.

Castle Group can contribute to the credibility program in several practical ways, by:

- Making grid-forming plant available for testing, including participation in AEMO's protection-quality fault current trial.
- Structuring commissioning of our sites around hold points aligned with Transgrid's minimum-level validation and Generator Performance Standard (GPS) processes, so that field evidence accumulates alongside the modelling.
- Sharing validated electromagnetic-transient (PSCAD) models early in the connection process and R2 models following commissioning.

We currently make no proprietary technology claim in doing so. Grid-forming capability is now the standard configuration for new grid-scale batteries in the NEM. Our capability lies in the nodes where Castle Group is active, deliverability at portfolio scale, and a willingness to be tested. We will engage on these offers through the systemstrength@transgrid.com.au channel, consistent with the draft's own invitation to grid-forming proponents in the Sydney West region.

5. System strength can be provided alongside normal market operation

A concern sometimes raised about contracting system strength from batteries is that it may compete with their operation in the energy and frequency control ancillary services (FCAS) markets. Transgrid's own guidance addresses this directly, and prefers to contract solutions that do not need to reserve active-power headroom, in order to minimise impacts on those markets; its assessment is conducted with the battery assumed dispatched to its registered maximum charge and discharge capacity. Castle Group's portfolio can be designed and offered on exactly this model: no active-power headroom reservation, with the only reservation being the small state-of-charge buffer the guidance contemplates - less than five minutes of energy, and under 5 per cent of a site's storage capacity. Fault-current capability is provided by appropriately sizing the inverters, a design and capital choice, rather than by withdrawing capacity from the market, and Castle Group accepts the availability obligation (95 per cent) and continued GPS compliance that apply.

Because grid-forming capability is now near-standard for new large batteries, the value a network business properly pays for is not the capability itself, but its contracted availability, at a guaranteed location, with fault level deliverable on demand and performance verified. To make that distinction transparent and auditable, Castle Group proposes an operating envelope, monitored by supervisory control and data acquisition (SCADA), in which the reserved system-strength duty and the merchant envelope are defined and mutually exclusive in every interval - so the contracted service is demonstrably additive to the mandated baseline and cannot be double-counted. We would welcome working with Transgrid to standardise such an arrangement.

6. Recommendations

We ask that Transgrid:

1. Retain the draft's preferred option 3b, including the 900 MW of grid-forming BESS for the minimum level in the Sydney West region.
2. Publish the window, process and evidence requirements for additional non-network options ahead of the Phase 2 contingent project application, so that the up-to-950 MW pathway is administrable and credible proponents can be assessed within it.
3. Apply Transgrid's published effectiveness factors to Castle Group's connection points and assess Castle Group's sites jointly, as a portfolio, against the Sydney West and Newcastle nodes, consistent with the draft's criterion that solutions may contribute individually or as a portfolio.

4. Acknowledge that grid forming inverters are a credible alternative to synchronous condensers and warrant detailed analysis as part of Transgrid's optionality considerations for the needs set out in the draft.
5. Engage with Castle Group now on demonstrating minimum-level credibility - trial participation, staged commissioning and early model exchange - through the systemstrength@transgrid.com.au channel; and
6. Confirm the Expression of Interest (EOI) route and indicative timing for the next tender tranche relevant to the Sydney West and Sydney-Newcastle region.

Summary

Castle Group supports the reassessment. As the developer of substantial four-hour, grid-forming storage at the nodes where the draft identifies the need, we are well placed to help deliver it as a non-network service, and we would welcome engagement on a confidential basis at Transgrid's earliest convenience. Please contact Shane Melotte (shane@castlegroup.com.au).

Yours faithfully,

Nick Rose
Chief Executive Officer, Energy
Castle Group



Signed

31/07/2026
Dated