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Lake Lyell Project Pty Ltd
ACN 688 084 899

Tenancy 3, Level 27
530 Collins Street
Melbourne Victoria 3000

Mr Jesse Steinfeld
Energy Transition Manager
Transgrid
180 Thomas Street
Sydney NSW 2000

Submitted electronically: regulatory.consultation@transgrid.com.au

Meeting System Strength Requirements in NSW – Material Change in Circumstances Assessment – Draft Report (July 2026)

Lake Lyell Pumped Hydro (LLH) is a 385 MW / 8hr pumped hydro energy storage joint venture project under development by EDF Power Solutions Australia and EnergyAustralia. The project is located near Lithgow, NSW, using the existing Lake Lyell dam as its lower reservoir and a new upper reservoir behind Mount Walker. Connected to the 330 kV transmission network, the project is expected to reach commercial operation in September 2032 and has been declared Critical State Significant Infrastructure by the NSW Government given its important role in firming the state's transition away from coal.

We appreciate the opportunity to provide feedback on Transgrid's Material Change in Circumstances (MCC) consultation specific to its obligation to meet system strength requirements in NSW. It is critical that this revised assessment of options continues to enable a diverse range of solutions to address the state-wide system strength needs over the coming decades. Getting this mix right now, will be critical in accelerating the transition in a way that supports technology diversity and efficient energy service/s delivery at the lowest cost to consumers.

Lake Lyell Hydro is a Direct Alternative Solution

We have reviewed the MCC consultation paper and consider that LLH should be recognised and progressed as a market-led, non-network alternative solution that meets TransGrid's published criteria (MCC Section 11) for displacing one of the two Sydney/Newcastle Phase 2 synchronous condensers (Munmorah or Newcastle) proposed in the preferred portfolio. It should not simply be regarded as a technical add-on to Transgrid's existing preferred portfolio.

LLH is a facility with 2 discrete generators purposefully designed and capable of simultaneously providing energy, capacity and 24/7 essential system stability (system strength) services to the NSW power system via its synchronous condenser mode. This value-stacking capability means LLH can deliver system strength at low or no incremental cost, in a way a single-purpose synchronous condenser structurally cannot, producing a materially better net market benefit and a lower overall economic cost outcome for NSW energy consumers. Similarly, LLH's point of connection fault current design exceeds every Phase 2 proposed site, and its contribution at Sydney West and Newcastle is comparable to those sites. Practically, should even more system strength be required from LLH, this can be facilitated during further detailed design stages.

LLH has a commercialisation date almost a year ahead of Transgrid's assumed Phase 2 FY34 delivery, providing additional timing flexibility into Transgrid's system strength contracting program, and headroom against the expected retirement of Bayswater and Vales Point power stations.

We have prepared a technical paper outlining further pertinent information about the LLH project and its fit as an alternative non-network solution in appendix A.

LLH Addresses the Net Market Benefits Requirement

The draft MCC assessment confirms that:

- Phase 2 synchronous condenser costs have increased 38% above the PACR estimate to \$324 million per site (\$FY25),
- further cost escalation is almost certainly likely with global demand for synchronous condensers increasing as international energy markets continue their own transition and supply tightening – increasing lead times, and
- delivery timing has already slipped from the PACR's 2029-30 window to the beginning of FY34.

We consider these findings materially weaken the economic case for continuing to rely on additional single-purpose network synchronous condensers and instead strengthen the case for TransGrid to look beyond the narrowed scope of solutions considered in this streamlined MCC assessment.

Further, TransGrid's own net market benefit framework (Section 4.5 of the MCC assessment) already recognises that portfolios with lower reliance on capital-intensive network solutions and unconstrained gas re-dispatch deliver higher net market benefits, chiefly through avoided capital and operating costs and reduced involuntary load curtailment.

A portfolio in which LLH displaces one Phase 2 synchronous condenser would be expected to improve on this net market benefit outcome for the same reasons TransGrid's own modelling favours Portfolio Option 3b (three synchronous condensers plus grid-forming BESS) over portfolios with more synchronous condensers: lower capital cost, and a lower-cost non-network alternatives doing equivalent work.

A Reassessment of Options is Prudent

LLH submits that TransGrid should not confine its final MCC assessment to the solutions already modelled in the draft, without re-examining the preferred portfolio in today's context.

TransGrid should use the findings of this MCC assessment - rising costs, schedule risk, and an emerging pathway for non-network contributions to the minimum level - as the trigger for a genuinely open exploration of market-led alternatives, including LLH, before locking in a contingent project application for further Phase 2 synchronous condensers.

LLH welcomes the opportunity to work with TransGrid to validate the contribution of our project ahead of the final MCC assessment in late August 2026.

If you would like to discuss our submission, please contact Dan Mascarenhas, Regulatory and Markets Principal at Dan.Mascarenhas@energyaustralia.com.au in the first instance.

Yours Sincerely

Michael De Vink
Project Director, Lake Lyell Hydro