

30 September 2021

Australian Energy Market Commission
GPO Box 2603
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Submitted by email to aemc@aemc.gov.au

Project number: EPR0087, ERC0325

Transmission Planning and Investment Review Consultation paper

Snowy Hydro Limited welcomes the opportunity to comment on matters raised in the Consultation paper from the Australian Energy Market Commission (the Commission) on Transmission Planning and Investment Review.

The fundamental problem in the NEM is a lack of transmission capacity. Transmission congestion and a lack of network investment are central to the current difficulties being experienced in the NEM. This is further highlighted by the Energy Security Board who noted that *"substantial transmission investment will be needed to accommodate the forecast 26-50 GW of new large scale variable renewable energy expected by 2040"*. Congestion will instead cause a slowdown in investment in new renewable and firming capacity, increasing prices and grid instability if critical transmission is not built on time.

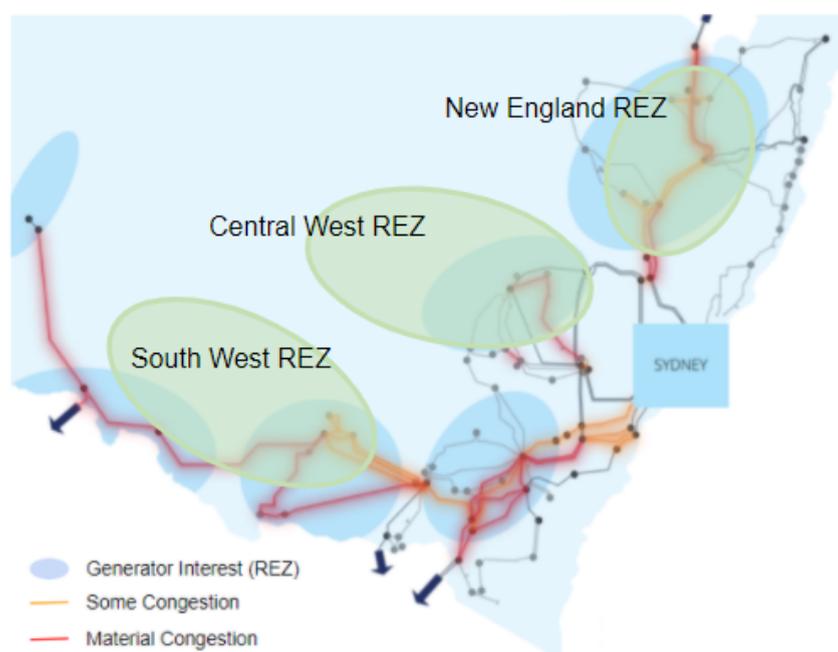
The Commission self-initiated Review is critical to the NEM to identify issues with the existing regulatory frameworks for major transmission projects. Snowy Hydro welcomes the Commission exploring options for reform of or improvements to the existing regulatory frameworks and recommending possible changes to the National Electricity Rules (NER) and other regulatory instruments to support frameworks that are fit-for-purpose and promote the timely and efficient delivery of transmission services.

The solutions for the Review are largely at hand. AEMO has developed the Integrated System Plan (ISP) as a roadmap to deliver low-cost, secure and reliable energy, and identifies the optimal development path for the NEM. Accordingly, the starting point for energy reform should be to implement the ISP as soon as possible. The transmission augmentations it identifies will unlock existing capacity, both firm and renewable, and will go a long way to addressing the current challenges in the NEM. To take one example, Snowy Hydro has over 1,000MW of the most advanced dispatchable capacity in the market, which has remained idle during heat waves because of a lack of transmission capacity. Addressing this issue directly through timely transmission augmentation will both enhance the value of dispatchable capacity, and deliver immediate, tangible benefits for households and business.

Increasing transmission capacity should be prioritised in the reform process and this is best achieved by an actionable ISP with committed timelines and funding. While there will always be some congestion in the NEM, the current problems cannot be solved by access reform. More transmission capacity must be built. Until transmission is built the cheapest renewable energy will be unavailable to consumers. Figure 1 below highlights the problem NSW is facing with congestion; there is already no spare transmission capacity available for renewables. There are currently more than 6,000MW of applications for new renewable generation, but this capacity is unable to be developed until transmission infrastructure is upgraded.

¹ ENERGY SECURITY BOARD (ESB), Post-2025 Market Design Final advice to Energy Ministers Part A, pp44, 27 July 2021

Figure 1: NEM Congestion in Regional Areas (REZs)²



The Review has identified important issues associated with the existing regulatory frameworks for major transmission projects. Regarding these issues Snowy Hydro submits the following:

- Investment in transmission infrastructure will ensure system security and reliability is delivered, and will underpin least cost investment in new renewable generation and increase competition in the market.
- The AEMO feedback loop, which is intended to provide consistency between the ISP and the RIT-T, has been transparent in practice. AEMO has responded to stakeholder concerns to update the ISP so as to address market issues through their present two-year cycle of the ISP.
- The traditional RIT-T process is too narrow in assessing potential benefits for actionable ISP projects. The Commission should consider the importance of whole of system benefits as part of the assessment for actionable ISP Projects which include long term risk management and energy security such as avoided intervention and long term competition benefits.
- We support further clarity in early works. These works should be progressed in parallel to achieve the ISP timeframes.
- Major transmission augmentations that are in train and urgently need to be constructed, should not be required to become contestable, however in due course new transmission ought to be procured by open tender.
- We understand the concerns of consumer groups around cost increases, however a rule change to reopen a completed RIT-T could create substantial delays to the necessary transmission network upgrades and could derail the clean energy transition, which would cost consumers in the long run.
- This re-opening of RIT-Ts risks trapping the ISP in a quagmire of bureaucracy and incrementalism; exactly what it was designed to overcome. The recent changes to the current framework have not been granted the opportunity to be fully implemented. The

² Snowy analysis

Commission should understand the policy effectiveness of these changes first before further changes are made.

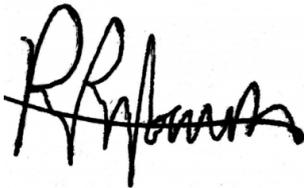
- The material change in network infrastructure project costs rule change makes no mention of the benefits of proceeding with the projects or the cost associated with delaying a certain transmission project by reopening a RIT-T
- Asymmetrically assessing additional costs, under the rule change, but not the benefits of a transmission upgrade would likely lead to the rejection of projects which would otherwise be in the public interest.

About the Snowy Hydro Group

Snowy Hydro Limited is a producer, supplier, trader and retailer of energy in the National Electricity Market (NEM) and a leading provider of risk management financial hedge contracts. We are an integrated energy company with more than 5,500 megawatts (MW) of generating capacity. We are one of Australia's largest renewable generators, the third largest generator by capacity and the fourth largest retailer in the NEM through our award-winning retail energy companies - Red Energy and Lumo Energy. Collectively, they retail gas and electricity in South Australia, Victoria, New South Wales, Queensland and the ACT to over 1 million customers.

Snowy Hydro appreciates the opportunity to respond to the Consultation paper on Transmission Planning and Investment Review. Any questions about this submission should be addressed to panos.priftakis@snowyhydro.com.au.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'P. Priftakis', written over a horizontal line.

Panos Priftakis
Head of Wholesale Regulation
Snowy Hydro



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Overview of existing arrangements

The growing number and type of generator connections will change the dynamics and location of new transmission investments. The timelines of interconnection for strategic projects is now vital with numerous baseload generators reaching their end of technical life by the mid-2020s requiring the need for storage development. Strengthening interconnection between Victoria and New South Wales will improve resource sharing across the NEM and deliver fuel cost savings along with facilitating connection of new renewable energy zones.

The challenge for long-term efficiency in transmission lines stems from the fact that transmission assets take a long time to site and build, and are very long-lived and economically disruptive investments. Certain limitations however made the RIT-T unsuitable for assessing the economic value of highly strategic transmission investment due to the following reasons:

- The test favours incremental development in generation and transmission, which can be more expensive for consumers in the long run;
- Its consideration of strategic benefits valued by consumers is limited;
- The RIT-T can be delayed by individual interests.

The RIT-T currently plays the role of a gate-keeper, ensuring that consumers only pay for transmission investments that are economically efficient and optimal overall for the NEM. This is where AEMO has done a comprehensive and transparent job with the Integrated System Plan (ISP). It is appropriate that the ISP continues to focus on identifying transmission projects which are strategic and nationally significant investments.

Investment in transmission infrastructure, including inter-regional connections, will ensure acceptable system security and reliability is delivered, and will underpin least cost investment in new renewable generation and increase competition in the market. The benefits to consumers and the broader economy associated with a coordinated and integrated approach to transmission planning were at the heart of the recommendation to develop and implement the ISP. In particular, an integrated, transparent transmission framework will allow the grid to deliver least-cost, secure and reliable energy to consumers. On the other hand, the application of the legacy cost-benefit test to ISP projects undermines the very reason for which the ISP was created; that is, to avoid an incremental approach to transmission planning inherent under the existing framework.

The AEMO feedback loop, which is intended to provide consistency between the ISP and the RIT-T, has been transparent in practice. AEMO has responded to stakeholder concerns to update the ISP so as to address market issues through their present two-year cycle of the ISP. Given the pace of the transition, we support the two-year cycle for the ISP.



Snowy Hydro does not expect the ISP to completely replace the RIT-T process although we believe that the ISP will play a role in anchoring considerations, making the RIT-T shorter and reducing investment uncertainty. We understand that the ISP will not guarantee that transmission lines are a certainty to be built, although the ISP is a reliable source of transmission development across the NEM.

Issues in the Regulatory Framework and Processes for Planning of Major Transmission Projects

Treatment of benefits in transmission planning

To form a strategic approach to transmission planning it is vital that the AER include the 'whole of system' benefits of strategic transmission projects. Over the coming decades transmission systems will need to be substantially transformed as we move to a renewable energy future. Snowy Hydro disagrees with the Commission that excluding wider economic benefits from the RIT-T is appropriate.

The RIT-T should not only assess the direct benefits being captured but that they include the "whole-of-system" benefits which correctly include competition and option value benefits. The whole of system benefits that should be part of the assessment for actionable ISP Projects include long term risk management, energy security which consist of avoided intervention and long term competition benefits. This could be achieved by expanding the definitions of 'competition benefits' and 'option value' which need to consider:

- Enabling future generation connections and the risk management and competition benefits for the system;
- Minimising the need for market intervention. Consumers would avoid the costs from intervention mechanisms such as the Reliability and Emergency Reserve Trader (RERT) and the prospect of future events of insufficient capacity investment justifying further intervention;
- Minimising major power system separation events which have driven record system costs. One of the main drivers of recent record NEM system costs was most notably the 18-day separation of the Victorian and South Australian power systems after a storm event knocked out key transmission lines on 31 January; and;
- The risk management benefit of the early commissioning of transmission.

Snowy Hydro understands AEMO will incorporate option value and competition benefits when choosing the optimal development path. However, it is vital that risk management is also taken into consideration, such as the early closure of coal fired generators..

The importance of accounting for risk management was highlighted by the announcement of the early closure of Yallourn. Prior to the announcement of the early closure of Yallourn (by mid 2028 rather than its 'end of life', ie. 2032³) the Draft 2020 AEMO Integrated System Plan (ISP) noted that "*costs would mount significantly if Yallourn retired earlier than currently anticipated and VNI West was not in place*⁴". Similarly, AEMO's 2019 ISP Insights paper noted that "*If there is more than a 20% chance of Yallourn Power Station closing earlier than currently scheduled*⁵" then there is risk management benefit to the early commissioning of VNI West. Further, in terms of risk management in Victoria, Yallourn Power Station is not the only power station that is likely to close earlier than currently anticipated. These risk management benefits are not currently captured in the definition of option value.

³<https://www.smh.com.au/business/the-economy/victoria-s-yallourn-coal-power-plant-to-close-fours-early-as-clean-shift-slashes-prices-20210310-p579bw.html>

⁴ AEMO 2020 ISP Draft

⁵AEMO, 2019, An Insights paper on Building power System resilience with pumped hydro energy storage

Currently, the market benefits considered in preparing the ISP include changes in fuel consumption arising through different patterns of generation dispatch, changes in voluntary load curtailment, changes in involuntary load shedding, and changes in the costs for parties due to differences in the timing of new plant, capital costs, and operating and maintenance costs. However transmission is also the fundamental backbone to lowering energy prices. Cheap energy is unavailable to consumers unless transmission is built while transmission improves competition, ultimately unlocking cheap firmed wind and solar energy to benefit consumers. Should the Commission examine a customer benefits test then the above should be considered.

Balancing TNSP's Exclusive Right to Build and Own Transmission Projects

Snowy Hydro welcomes the Commission considering aspects of financeability in the context of the competitive provision of transmission projects. Any changes proposed should advance the National Electricity Objective (NEO) by facilitating efficient transmission investment so that the proponents have the capacity to deliver on the service requirements that are demanded by consumers. We therefore support in principle considering aspects of financeability in the context of the competitive provision of transmission projects however from a cost perspective a further detailed review is required on system security.

Major transmission augmentations which are in train and urgently need to be constructed, should not be required to become contestable, however in due course new transmission ought to be procured by open tender. It would provide a means to harness competitive forces, protect against overspend and reduce dependence on a single network operator. If the generation targets in the NSW Roadmap are subject to open competition there is no reason why the transmission build should not be, either. Currently the RIT-T itself contributes to undermining the cost efficiency of the contestable works, by publicly declaring the "value" of the project before the tenders are called.

Material Change in Network Infrastructure Project Costs Rule Change Request

The Commission notes that any reforms to the economic assessment process must balance streamlining the process while maintaining its rigour. The process however could face significant uncertainty and delays if the RIT-T is required to re-apply following the completion of the process. We understand the concerns of consumer groups around cost increases, however the rule change could create substantial delays to the necessary transmission network upgrades and could derail the clean energy transition, costing consumers in the long term.

Should the Commission seek to undertake a further assessment of the material change in network infrastructure project costs rule change it must consider that certain parties could seek to delay transmission augmentation, either to restrict competition from cheap renewables, or in the belief that a delay will benefit consumers. This re-opening of RIT-Ts risks causing the ISP being trapped in a quagmire of bureaucracy and incrementalism, exactly what it was designed to overcome.

There is a long lead time in building new transmission lines. Interconnector options can take a very long time with the RIT-T just the first step in a lengthy process to deliver in a rapidly changing environment, such as the energy market, which can affect the feasibility of these options throughout planning, construction and commissioning.



The NSW Transmission Infrastructure Strategy⁶ recently noted that interconnection projects more than pay for themselves by enabling efficient investment and use of generation and storage. For Humelink alone, the NSW Electricity Strategy proposed accelerating Humelink to unlock 1,200MW of existing capacity, of which 500MW would be available during peak demand. That is, Humelink offers real benefits even before Snowy 2.0 is commissioned. The NSW Roadmap makes the case for Humelink even more compelling; its long duration storage target (3GW), will be insufficient of itself to firm up 12GW of new wind and solar. It is, accordingly, impossible to see the Roadmap succeeding without the need for transmission.

While Snowy Hydro understands it is right that new transmission infrastructure is scrutinised, actionable ISP projects have already been determined as the least cost-pathway to upgrading the network. The Roadmap, similarly, recognised the problem of transmission.

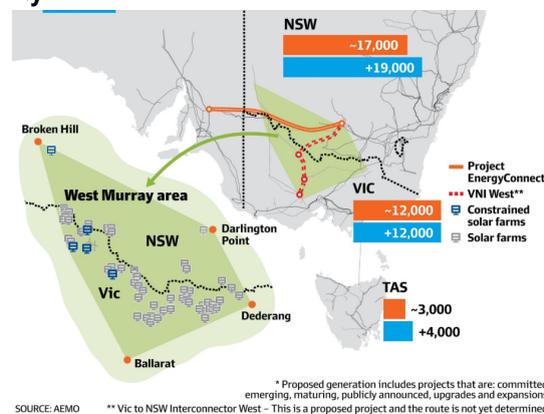
The rule change request proposes that, unless otherwise determined by the AER, RIT-T proponents be required to reapply the RIT if, following completion of the RIT, a project's total assessed project cost exceeds a certain threshold. The proposal, however, makes no mention of the benefits of proceeding with the projects (including the additional benefits that may arise after the RIT-T) or the cost associated with delaying a certain transmission project by reopening a RIT-T. Asymmetrically assessing additional costs but not the benefits of a transmission upgrade would likely lead to the rejection of projects which would otherwise be in the public interest.

Transmission augmentations will lead to lower prices for consumers, requiring connecting demand centres with not only the cheapest energy but also reliable capacity and storage. If transmission augmentation is delayed then reliable capacity and storage is wasted and the clean energy transition will be considerably slower and more expensive than it needs to be. This rule change proposal does not appear to address these matters. Connecting dispatchable energy will deliver a greater increase in competition, through enabling the economic development of cheap renewables and storing otherwise wasted wind and solar energy.

The uncertainty this rule change would cause in the market should not be ignored. The current transmission system is no longer fit for purpose and is already exposing major load centres to load shedding in the future should more dispatchable generation retire. Humelink and VNI West projects alone have suffered delays with far away commissioning dates.

The area of the Victorian and NSW power system bounded by Ballarat, Dederang, and Darlington Point is known as the 'West Murray' zone. It has attracted significant investment in grid-scale solar and wind generation, despite being a remote and electrically weak part of the NEM. In this area alone Snowy Hydro is concerned should timely transmission augmentation not occur that could also delay more REZ's proposed in the plan.

Figure 1: Map of West Murray Zone⁷



⁶https://www.energy.nsw.gov.au/sites/default/files/2018-11/DPE8754%20NSW%20Transmission%20Infrastructure%20Strategy_WEB.ACC_.PDF

⁷ Source: AEMO

This would delay the Victorian REZ Development Plan and Victoria's renewable energy targets (VRET) target date. Further to this re-opening the RIT-T for VNI West for example would delay vital system resilience to cater for unplanned early exit of coal plant, by allowing Snowy 2.0 to firm VRET output and capture excess or low value generation for discharge during times of energy scarcity, facilitating an orderly transition to the future renewables dominated power system.

