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Australian Energy Market Commission
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Coordination of generation and transmission investment Discussion Paper

Snowy Hydro Limited welcomes the opportunity to comment on matters raised in the Discussion Paper from the Australian Energy Market Commission (the Commission) on the Coordination of generation and transmission investment.

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.

A strong coordination between transmission and generation is needed enable the optimal expansion of the NEM. Snowy Hydro supports an Integrated System Plan (ISP) for the NEM transmission network which identifies renewable energy zones across all NEM regions and identifies transmission network routes to efficiently connect the renewable energy zones (REZ) to the existing transmission infrastructure. We therefore believe AEMO and TNSP's should continue to coordinate and provide information to market participants about where good places to connect preferably through AEMO's ISP.

The NEM has not experienced significant congestion and any imbalances have been managed through the dispatch process. With the significant growth in proposed new generation it is important that investors have sufficient confidence in the market and the overall policy settings to deliver the capital prevent any future significant congestion issues. Snowy Hydro therefore believes key strategic transmission investments identified in the ISP should undertake an alternative approvals process which would only require the relevant Network Service Provider (NSP) to competitively source the most efficient means to deliver the transmission investment.

The current status quo of open access supplemented by more strategic planning of the transmission network to ensure transmission is built in the most efficient manner as the NEM transitions is our preferred option. Options such as the OFA would increase rather than reduce the risks faced by

consumers and would be more likely to harm the efficiency of generation and transmission investment coordination than improve it.

Large scale storage generation should continue to not be charged with a proportion of Transmission Use Of System (TUOS) charges as it provides synchronous generation and generator's spot bids are made of many considerations making it difficult to incorporate the uplift required to recover generator TUOS charges.

Transmission Congestion

The NEM has not experienced significant congestion and any imbalances have been managed through the dispatch process. We welcome the Commission's findings in their recent commissioned Ernst and Young (EY) report that assessed the patterns and costs of congestion in the NEM. The report found that there is limited congestion at the moment within the NEM and where congestion occurs it has largely been due to interconnector transfer limits. A certain level of congestion is expected in an efficient market where the cost of expanding the network to eliminate congestion is greater than the cost of congestion.

The Commission however expects that congestion could be more significant in the future, referring to the significant growth in proposed new generation to the extent it does eventuate and where it is located. Snowy Hydro believes that given the scale of investment required it is important that investors have sufficient confidence in the market and the overall policy settings to deliver the capital.

The challenge for long-term efficiency in transmission lines stems from the fact that transmission assets take a long time to site and build, are very long-lived and economically disruptive investments. TransGrid recently noted in their ISP submission that there has been an unprecedented volume of generation connection enquiries with over 30,000 MW of potential solar, wind and hydro projects at various stages of development. Worryingly TransGrid believes that only a fraction of these projects can be accommodated in the spare capacity of the current network¹. Figure 1 shows the current connection enquiries to the TransGrid network

¹ TransGrid, 2018, Integrated System Plan submission, <<
<https://www.transgrid.com.au/news-views/publications/Documents/TransGrid%20Submission%20to%20Integrated%20System%20Plan.PDF> >>


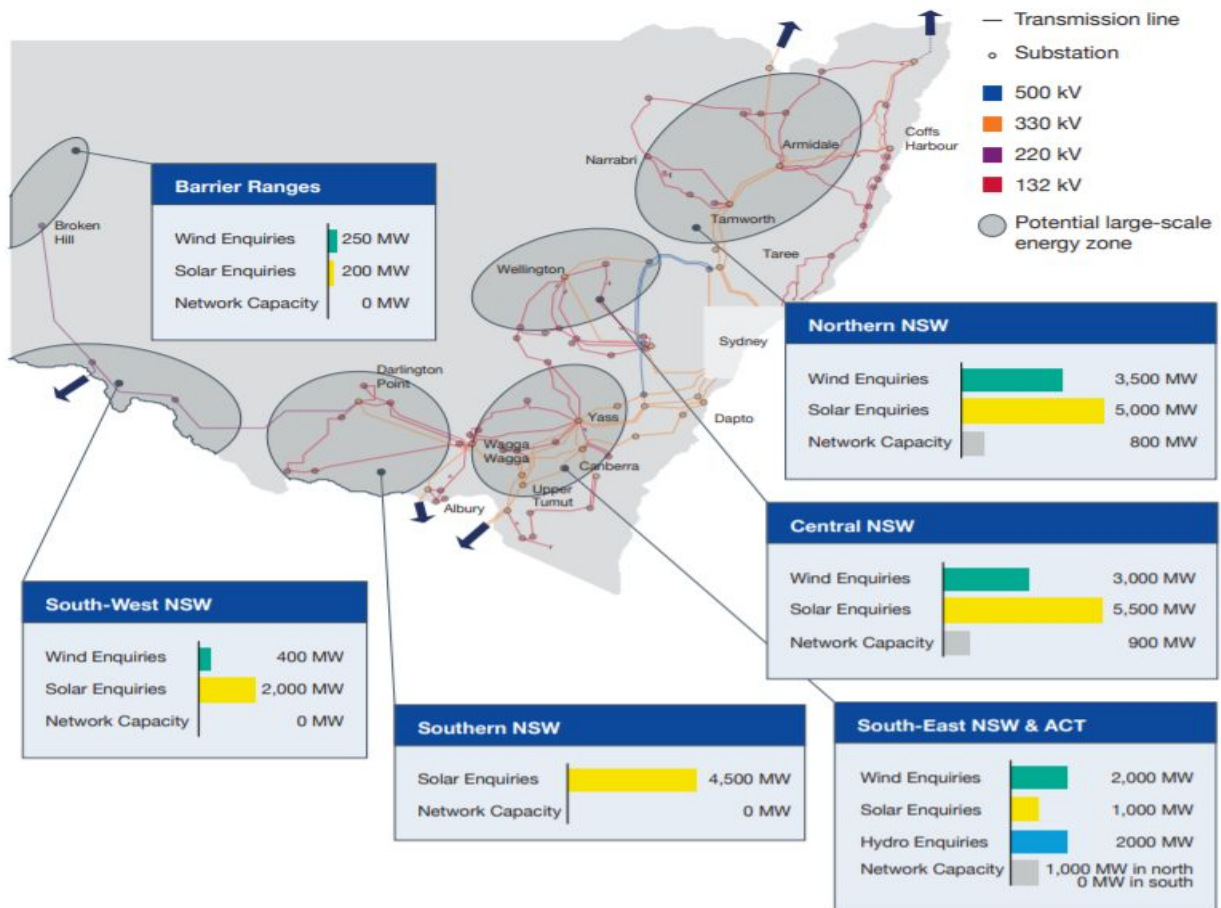


Figure 1: Current connection enquiries to TransGrid network²



The AER's large scale review of the application guidelines for the regulatory investment tests (RITs) and AEMO's ISP takes on greater importance on the future impact of congestion. Although 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, it is unsuitable for assessing the true economic value of highly strategic transmission investment. Where these key strategic transmission investments are identified in the ISP, we suggest an alternative approvals process which would only require the relevant NSP to competitively source the most efficient means to deliver the transmission investment. A different approvals process for highly strategic transmission investment through the regulated transmission funding process will be both timely and avoids gaming opportunities from Stakeholders who are incentivised to delay the relevant investment.

² TransGrid, 2018, Integrated System Plan submission, <<
<https://www.transgrid.com.au/news-views/publications/Documents/TransGrid%20Submission%20to%20Integrated%20System%20Plan.PDF> >>

The greater interconnection between states should improve energy security and facilitate quicker reduction in emissions without comprising system security and reliability.

Open Access Regime

Snowy Hydro supports the current status quo of open access supplemented by more strategic planning of the transmission network to ensure transmission is built in the most efficient manner as the NEM transitions to a more variable generation mix. In general the current process to relieve transmission network congestion is adequate at ensuring transmission investment is developed in conjunction with generation developments. We strongly oppose implementing an Optional Firm Access (OFA) type model.

The Commission has correctly recognised that *“stakeholders are currently responding to potential wide-ranging reforms to the security and reliability frameworks in the NEM, and as such there may currently be limited appetite to explore the other options outlined above.”*³ Snowy Hydro asserts this is not the time for the Commission to make a significant change to transmission access arrangements when there is uncertainty in the current environment.

The OFA is a problem looking for a solution and will unfairly discriminate against large-scale generation by requiring them to pay to access the transmission network. It would increase rather than reduce the risks faced by consumers and would be more likely to harm the efficiency of generation and transmission investment coordination than to improve it.


Firm access planning in an uncertain investment environment will lead to information asymmetry between TNSP and the AER and a risk of uneconomic overbuild of network capacity. Certain generators may be prepared to accept having capacity they know could get constrained off and unable to earn revenue while risk averse generators would make their own assessment of efficient investment rather than investing in fully firm access to achieve an efficient outcome.

Transmission Charging Arrangements

Snowy Hydro firmly believes that large-scale storage generators should not be charged with a proportion of TUOS charges. For pumped hydro development, the pumping of the water is primarily for the provision of services such as energy, inertia, system strength, and voltage support - these are all services provided from synchronous generation - and services that are not provided from a load. Hence the services provided from pump hydro generation are services associated with generation from a synchronous generator and therefore TUOS charges should not apply.

Snowy Hydro also notes that it would be inefficient to charge generators with a proportion of TUOS charges because the only means of recovering the charge would be through the Spot market. A generator's Spot bids are made of many considerations and hence to incorporate the uplift required

³ AEMC, 2018, “Coordination of generation and transmission investment Discussion Paper”, p30



to recover generator TUOS charges would most probably mean these costs are not recovered sufficiently. As a consequence, generators viability may be further eroded leading to premature exit from the market.

There are a number of valid and economically efficient reasons why generators should continue to not be required to pay for TUOS charges. Load as a whole receive some level of implied transmission access rights (ie. Firm rights) to the transmission network due to the fact transmission services and investments are made to satisfy relevant jurisdictional reliability standards. Generators on the other hand have no firm access right to the shared transmission network and for this reason customers pay TUOS charges


The Commission states that in the absence of requiring generators to pay TUOS charges, consideration of whether a separate registration for storage may be appropriate. Snowy Hydro notes that Snowy 2.0 (pumped hydro development) is no different to the Tumut 3 pumped hydro power station.

Renewable Energy Zones (REZ)

The Commission has provided four indicative definitions or type of REZ. Snowy Hydro submits that Option 1 the Enhanced information provision is the preferred option. Option 1 involves AEMO and TNSP's coordinating better to provide more information to market participants about where good places to connect would be which would occur through better information being highlighted in the ISP. We support this option as it can be facilitated through the existing framework and through upcoming amendments to the transmission framework. The Commission highlights that *"it will improve transparency, contestability and clarity in the connection framework with the aim of making it easier and cheaper for generators to connect to the network - and so to develop REZs."*⁴ These amendments will likely enable connecting parties to connect faster than under the existing connection process although transmission projects that have high/strategic value should undertake a different approvals process to avoid gaming opportunities from Stakeholders who are incentivised to delay relevant investment.

Option 2 which requires generators coordinating together themselves to construct and build REZ's would likely require changes to the regulatory framework and could be problematic if generators do not wish to join with competitors to develop a REZ. With TNSP's required to keep connection applications confidential it may lead to prospective generators not knowing about other generators wanting to connect in the same area. Assessing the impacts of asymmetric information, a situation where there is imperfect knowledge, will create problems, and what a firm with private information might do to take advantage of that information. In the current uncertain environment generators also may not want to take on the risk associated with funding infrastructure for other generators. We therefore believe Option 2 is not considered appropriate

⁴ AEMC, 2018, "Coordination of generation and transmission investment Discussion Paper", p56



Snowy Hydro appreciates the opportunity to respond to the Discussion Paper. Any questions about this submission should be addressed to Panos Priftakis, Regulation Manager, by e-mail to panos.priftakis@snowyhydro.com.au.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'K Ly', with a horizontal line underneath.

Kevin Ly
Head of Wholesale Regulation
Snowy Hydro

