

20/02/2020

Australian Energy Market Operator
isp@aemo.com.au

Re: Consultation on the AEMO 2020 Draft ISP

Dear Sir/Madam,

Energy Estate Pty Limited would like to thank AEMO for the opportunity to submit this feedback for your consideration as part of the Integrated System Plan (ISP) Consultation process for the 2020 AEMO Draft ISP.

Energy Estate is an adviser and accelerator of energy projects across Australia, assisting and participating in current developments in most mainland States. We are grateful to have been involved in the most recent ISP industry consultation submission process.

Energy Estate is involved in advising (as financial adviser) on the sale of over 2 GW of projects throughout Australia at the moment and is accelerating over 7GW of potential renewable energy developments in Australia, including Central Queensland Power a 2GW hub in Central Queensland and the Walcha Energy project; a ~4GW renewable energy hub under development in the New England REZ that incorporates wind, solar, battery storage at the proposed Uralla Hub and a potential large-scale, long-duration pumped hydro energy storage at Dungowan Dam.

Energy Estate understands the need for AEMO's ISP planning process and seeks to provide support for the initiative through constructive feedback and suggestion.

1. *Corporate demand*

The ISP Scenarios factor in State Government policies such as the VRET, QRET and NSW Electricity Strategy when forecasting the drivers of increased renewable demand and generation. The draft does not appear to take into account the rapidly growing demand of the corporate renewable energy market. Non-government initiatives such as the RE100 and the Business Renewables Council Australia are prime examples of the growing trend of corporates procuring renewable energy for their operations, increasing the demand and enabling projects to be developed.

We believe that the increase in public awareness around climate change and renewable energy as a result of the extreme weather and fire conditions of this past summer will further increase this demand, as awareness of and expectation for climate change action puts further pressure on corporates to 'green their energy supply'.

We propose that the ISP specifically take into account the anticipated growth in corporate renewable electricity procurement.

2. *Inter-regional settlements*

The ISP's focus on inter-regional interconnectors and increased inter-regional energy flows will have a material impact on the inter-regional settlements market (as managed through the Settlement Residue Auctions under the National Electricity Rules). While that market looks to facilitate the management of inter-regional pricing risk, there remains, by virtue of the physical flows and potential constraints, a real possibility of price separation between regional nodes.

As AEMO is aware, most renewable energy projects need to be underpinned by a level of contracted revenue, either from large retailers or corporate load. Given most PPAs will be written and settled off a particular node, there is always a risk to the counterparties if the generation asset and relevant load are located in separate States. Taking part in Settlement Residue Auctions by intermittent generation can prove to be complex.

For that reason, we believe that longer-term planning of the grid under the current market structure should have regard to the flows between regions and the inherent risks associated with those flows and consequent price separation risk. It needs to anticipate that there may be some reluctance of intermittent generators to contract material volumes with customers/load in different States.

Accordingly, we believe an analysis of likely load growth in one State and likely renewables/intermittent generation build-out in that State, and consequential impact on the inter-regional settlements market, should be undertaken and reported on. It would be unfortunate if significant inter-regional risk were "baked-in" to the transmission strategy.

We propose further consideration of State based load and corresponding State-based generation development be undertaken, and an assessment be undertaken of the possible impact of that on the inter-regional settlements market. We anticipate this may lead to a greater emphasis on intra-State upgrades, at least until the time the market is restructured to allow for better management of interregional settlement risks.

3. *Prioritise Options for transmission and REZs that benefit Large-Scale Energy Storage, particularly Pumped Hydro*

Large-scale energy storage projects are required to enable cost effective, reliable and timely integration of renewable energy across the NEM. These assets, of which pumped hydro is a key technology, act as key enabling market/firming infrastructure to the entire NEM and all generators connecting within it and facilitate the maximum utilization across the day of transmission infrastructure. As AEMO will appreciate, there is limited site availability for the development of facilities such as pumped hydro energy storage.

Our preliminary review of the proposed route of transmission lines (such as QNI) shows that they generally run through the flatter areas of the country. This is understandable from a cost and ease of construction perspective. However, this positioning means that they are likely to be a significant distance from pumped hydro projects, due to the geographic requirements of the technology.

Large-duration storage projects are proposed across the NEM (e.g. our Dungowan development, Snowy, Kidston Pumped Hydro, WaterNSW Pumped Hydro projects). Few of those sites (other than Snowy) are likely to be developed to their full capacity without proximate transmission enhancement, due to increased costs and reduced effectiveness of connecting the projects to distant transmission lines.

We propose that the preferred options pay greater attention to the likelihood of connection of pumped hydro energy storage projects, and in doing so, factor this into the route planning. This will better enable these important projects to participate effectively in the energy market and grid more generally.

4. *Indicative timing of the upgrades*

The timing of ‘priority’ and ‘near term’ projects in the ISP are defined with specificity. However, the ‘future grid augmentation’ projects are given very wide development windows (some in excess of 10 years). Whilst we appreciate the difficulty in forecasting precise timelines for a large number of projects, the lack of certainty imposes significant constraints on those developers (and accordingly communities, investors and financiers) looking to ‘build out’ projects in relevant renewable energy zones.

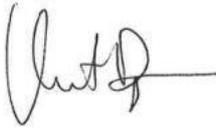
As you will appreciate, the development cycle, particularly for pumped hydro energy storage but also wind, can be lengthy and uncertain and developers are commonly unwilling to commit material development capital in circumstances where they do not have reasonable ‘line of sight’ to a timetable for connection of capacity to the grid. Developers would typically anticipate a development cycle of 3-5 years (depending on relevant technologies and often longer for PHES), although recent experience has been that development cycles have been significantly extended because of grid uncertainty. This directly impacts on the timetable by which projects can be developed and accordingly corporates’ and governments’ access to low cost renewable energy.

We also recognize that the ISP states that the expected decision date for the future grid augmentation projects is June 2022. Given community and corporate pressure for increased supply of renewable energy, we would strongly recommend that this date be brought forward, enabling communities, developers and off-takers to more readily plan for the transition from coal fired power to renewable energy.

We propose further work be undertaken to provide a more precise timeline for all projects prior to June 2022, bringing forward the expected decision date for future grid augmentation projects timings to as close as practicable.

We believe the ISP planning process has provided a strong direction for realizing the transition to a decarbonized electricity network in Australia and we are grateful for this opportunity to provide feedback and suggestions to the AEMO on the process. We would welcome ongoing discussion with AEMO on the issues raised above.

Kind regards,



Vincent Dwyer
Principal