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28 February 2018

INTEGRATED SYSTEM PLAN CONSULTATION
SUBMISSION

Thank you for providing the opportunity to make a submission to the Integrated System Plan.

Risen Energy Pty Ltd is developing the 121MW Yarranlea Solar Farm to the south east of Toowoomba in Queensland. Risen Energy's plan is to become a major player in the renewable energy and energy storage market in Australia's National Electricity Market (NEM).

Risen Energy considers that renewable energy and utility sized storage will be main drivers behind the future of electricity supply and network planning. While the power system in the past has been based on large scale generation and large transmission, we believe the future will be based on smaller, dispersed, utility sized renewable generators leading to less reliance on large transmission networks.

Risen Energy's main experience is within Queensland, therefore the following response to the questions within the ISP consultation paper have a Queensland region focus.

Material Questions

What are the least-regret generation and transmission developments which are most robust to different futures?

> One of the biggest challenges facing Australia's electricity supply industry is the growth of 'behind-the-meter' energy supply. As the cost of network connected energy continues to rise this will push more consumers (big and small) into managing their own energy needs with less reliance on centralised power supply. This centralised approach has been in place for many decades, and it is vital that the electricity supply industry faces this changing paradigm and changes in step, rather than working against the march of renewable energy.

Could large-scale renewable generation in targeted zones provide an efficient solution for future power system development, and what storage and transmission investment would be needed to support such an outcome?

> Risen Energy believes that large-scale renewable generation in targeted zones could provide an efficient solution for future power system development. With many forms of energy storage being developed it is considered that renewable generation coupled with suitably sized storage should be the main driver behind the new power system development; rather than focussed on transmission development as the main solution.

What is the optimal balance between a more interconnected NEM, which can reduce the need for local reserves and take advantage of regional diversity, thereby more efficiently sharing resources and services between regions, and a more regionally independent NEM with each region self-sufficient in system security and reliability?

With the NEM regions currently based on state borders, it is considered that to obtain the optimal balance between a more interconnected NEM and more independent regions may be to re-configure the regions to align with market price signals rather than political boundaries. A review of regional boundaries may result in alignment with REZs as they develop.

To what extent could aggregated load shifting and price-responsive load management, made available through investment into distributed energy resources (DER), reduce the need for large-scale generation and transmission development to replace the existing generation fleet as it reaches end of life, while maintaining power system reliability and security?

In the current transmission planning process, load growth is used to determine the need for network development. By taking another approach, that is, distributed energy sources with distributed storage, load shifting and load management, should be the may driver for power system development. If development of DERs is the main focus, it could drive the shift away from load growth based network development.

What are the key factors which can enable generation and transmission development to be more coordinated in future?

As above, focusing on distributed energy resources will drive the power system developments.

Renewable Energy Zones

Does this analysis capture the full range of potential REZs in eastern Australia?

One possible REZ that has not been considered in the analysis is the North West Surat basin in Queensland. This comprises the 275kV network to the north west of Powerlink's Columboola substation, through Wandoan South substation and out to the various substations constructed to service the coal seam gas pumping loads. While possibly not being the optimum renewable energy resource (wind and/or solar) there is a significant amount of load already in place and an extensive 132kV and 275kV network. This area also has a significant amount of coal reserves that, when developed, will add to the load in the zone. Coupling these high loads with renewable energy will create a REZ with only minimal transmission development required. There may be some regulatory changes required to facilitate and encourage access by renewable energy providers to these transmission assets.

What other factors should be considered in determining how to narrow down the range of potential REZs to those which should be prioritised for development?

As discussed above, narrowing the range of potential REZs should take into account existing transmission infrastructure and loads in an area.

For example, Risen Energy is developing the Yarranlea Solar Farm that will feed into Powerlink's Middle Ridge substation. This substation has a significant load, and interconnection into the high load hub of south-east Queensland, providing all the requirements for a REZ.

Therefore, development of REZ' around existing high-load hubs could be more economic than developing new REZs and associated transmission.

What are the potential barriers to developing REZs, and how should these be addressed?

The biggest barrier to the development of REZs is the network development cost. As above, this can be alleviated by identifying existing hubs and developing these into REZs.

This approach then brings into question the other matters that renewable energy developers have to address as they develop projects, such as access to agricultural land, public perception, etc. Instead of the focus for power system development being placed on network requirements, the focus could shift to assisting renewable energy developers building projects close to existing hubs.

Currently the Regulatory Investment Test–Transmission (RIT-T) will only take into account 'committed' projects. And projects won't be able to reach financial close without secure commitment to the network. For the development of REZs the RIT-T will need to be reviewed to take into account the possible renewable energy developments that might occur should the REZ proceed. This could be addressed by taking a 'build it and they will come' approach, with the relevant government taking the initial financial risk and selling down this sake as more renewable energy projects come on line in the REZ.

Transmission

Have the right transmission options been identified for consideration in the ISP?

Risen Energy generally supports the identified transmission options in the ISP. Most options identified are interconnectors between regions, with a timeframe of 10 to 20 years. However, as more renewable energy projects are developed and DER advance during this time, the need for these transmission options may not eventuate.

How can the coordination of regional transmission planning be improved to implement a strategic long-term outcome?

Regional planning will need to include detailed analysis of renewable energy developments within a region when planning networks. This may include scenario planning to take into account the uncertainty of renewable energy project development.

What are the biggest challenges to justifying augmentations which align to an over-arching long-term plan? How can these challenges be met?

The biggest challenge is the changes to load growth (reducing) as customers manage their demand independent of the power system while DER is growing at the same time. These unknown and unmanageable changes will make it difficult to justify significant network development into the future.

Is the existing regulatory framework suitable for implementing the ISP?

As discussed above, the main regulatory framework in question is the existing approval process for building regulated network. This regulatory process will need to be addressed.

Thank you for the opportunity to provide the above analysis. Please contact me if any further clarification is required.

I would appreciate to be kept informed of the ISP Consultation progress.

Bet Regards,

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