12 March 2020

Tania McIntyre
Senior Stakeholder Engagement Advisor, AEMO

By email: vniwestritt@aemo.com.au

Dear Tania,

Ref: Submissions on the VNI West RIT-T PSCR

Thank you for the opportunity to submit our comments and recommendations on the PSCR report for the VIN RIT-T.

Founded in Australia in 1992, Pacific Hydro is a global renewable energy owner, operator and developer. It operates a high quality, diversified portfolio of wind, solar and hydro projects with an installed capacity of 1 GW+ across Chile, Australia, and Brazil; it is also developing a substantial number of projects totaling over 2 GW of potential capacity; and has a growing electricity retail business in Australia, Tango Energy.

Pacific Hydro is the owner of the approved Prairie Solar Project, which has a logical connection into the Bendigo to Kerang 220 kV line.

We understand from your email correspondence to us that the Draft 2020 ISP, since the publication of the PSCR report, nominated two transmission network augmentation options as most viable: VNI 6 (ShepLink) and VNI 7 (KerangLink @500 kV).

Our comments can be grouped in two areas, as follows:

Network availability

It is clear from the challenges faced by the present electricity transmission infrastructure, from frequent islanding events to tower structural collapses, that reinforcing and augmenting the power system to enable larger interstate flow and wider renewable generation deployment requires urgent attention.

The power system is and has for some time been outdated and unable to facilitate the level of renewable energy investment otherwise available from the market.

Given the timeframes that projects of the proposed size will involve for construction and operation (e.g. 6-8 years), we suggest that it would be more practicable to implement a phased approach with portions of the scope being developed sequentially. This would offer mitigation against the risk of the network still being outdated at the time when the augmentation projects are completed, given the 8GW of renewable generation proposed as of today.

With the western Victoria transmission augmentation in the Ballarat area now committed with the Western Victoria Transmission Network Project (WVTNP), it would be logical to develop the Ballarat to Bendigo to Kerang branch first, and the remaining portion of the VNI later.

The timeframe of this first stage would better align with the timing of the renewable project developments committed today in the Ballarat and Bendigo area, avoiding the risk of a whole-scope type project being out of date by the time it is finished. This portion of the overall ISP

VIN7 option has existing corridors with 220 kV infrastructure and may be quicker to deliver from a planning and land perspective.

The remainder of ISP VNI 6 and ISP VNI 7 (the actual connection into NSW) require new corridors and easements to be identified, negotiated and secured.

Similarly, the Darlington Point to Wagga Wagga section of the EnergyConnect project will be implemented and energised between 2022 and 2024, making it logical to develop the Kerang route first and then connect into the existing corridor.

Pacific Hydro has experienced instances where over prolonged periods of development, planning regulations have changed in the interim and rendered the project unviable. A staged, faster approach appears to be aligned with Minister D'Ambrosio's recent stance on energy legislation and its bureaucratic nature. It would also meet the criteria of "targeted and timely investment" listed in the PSCR and the need to "keep pace" with the energy transformation we are experiencing in Australia.

The retirement of thermal generation plants cannot be forecast accurately given these assets are operating near end of life where bathtub failures become more frequent. Early and unexpected plant closures are a real risk. Therefore, earlier completion of sections of the proposed VNI projects would help mitigate this risk also.

A point that the PSCR report doesn't address, due to its timing, is that since its publication we have experienced another catastrophic structural failure of transmission lines in western Victoria.

Energy Minister, Lily D'Ambrosio, has been quoted to say that "the state's ageing transmission equipment - poles, wires and other infrastructure that moves power around - is preventing lower-cost clean energy from wind farms and other renewable projects from getting to homes and businesses."

The structural failure of the 500 kV double circuit line between MLTS and MOPS / HGTS on 31 January 2020 has shown how fragile the existing high voltage infrastructure can be to weather events.

There have been eleven separate events of structural tower failure since 1959 in Victoria, and 4 of these have been on the Bendigo – Kerang 220kV line, with the first as far back as 1979 and the latest as recent as 2014.

This particular line has shown its structural weakness on several occasions; the implication of the now inadequate design is that any project wanting to connect to it, not only faces the known thermal limitations, but also the reality of not being able to retrofit Optical Ground Wire (OPGW) conductors for the mandatory new communication systems. This adds significant and unnecessary cost to any developing project in this area.

We strongly recommend that the Ballarat – Bendigo – Kerang line is replaced and brought to modern standards as part of an early phase of the VNI 7 project.

The PSCR report highlights how VNI 7 – 500 kV transmission lines through Bendigo and Kerang offers the very same level of benefits as VNI 6 – 500 kV transmission lines from Ballarat through Shepparton but with the additional benefit of a further 1000 MW of generation capacity in south western NSW REZ N6, thanks to improved capacity at Darlington Point. This clearly justifies an additional $0.4M investment given that one of the main objectives of this RIT-T process is the increased deployment of renewable generation.

In terms of the resilience benefits of geographical diversity against widespread weather disasters, Kerang is in a unique position as it is the furthest from any existing cross-state connection and provides the greatest redundancy benefit in introducing a new connection route in a remote corridor. The Shepparton – Wagga Wagga corridor is comparatively closer to other existing transmission arteries like the Dederang – Wodonga route.

We note that the challenges associated with the Shepparton corridor and its high agricultural value also include irrigation infrastructure as a major technical and community constraint.

Land, Planning and Policy considerations

Well-planned renewable energy projects and agriculture can successfully co-exist and complement each other. We note from the current Victorian Government's policy that the proponents of solar farms must consider the loss of productive agricultural land and the impact of that loss on the agricultural sector. These policies, which are outlined in Clause 14.01 and 14.02 of the Victorian Planning Provisions and Victoria's Solar Energy Facilities – Design and Development Guideline (August 2019), give significant weight to the protection of high quality agricultural land, particularly in areas that are declared irrigation districts under the Water Act 1989. Whilst they do not prohibit utility scale solar farms in such areas, these policies provide caution regarding the location of utility scale solar farms within high quality agricultural land.

The Shepparton corridor passes through the Goulburn Valley and the heart of Victoria's irrigated high quality agricultural land. Kerang is also within the Goulburn Murray Irrigation District (GMID), however recognising that the preferred upgrade will facilitate generation projects in the wider area, it is considered that the KerangLink upgrade will better facilitate renewable projects in areas of north-western Victoria which have lower quality agricultural land. As such, we consider the KerangLink option more complimentary and consistent with Victoria's renewable energy targets and wider national goals towards transitioning the NEM through this critical network planning phase.

We note the following land–use planning, environmental and social considerations support prioritisation of the KerangLink:

- Agricultural land quality and land value – generally lower value agricultural land exists in north-western Victoria than in north or north-eastern Victoria. As such, there is likely to be greater community support for new power generation projects that help diversify challenging agricultural economy bases in north-west Victoria. Shires such as Loddon and Gannawarra in north-western Victoria are considered more attractive for solar energy projects and also more likely to support complimentary emerging renewable technology development such as hydrogen.

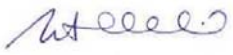
- Topography and environmental consideration – north-western Victoria is characterised by flat wide open country whereas north-eastern Victoria's landscape has significantly greater coverages of steep ranges and the foothills of the Great Dividing Range. This may mean that route selection will likely be more constrained and environmental impacts of developing the Shepparton Link are more significant. Similarly, new generation is less likely to occur in the environmentally sensitive landscapes of the Great Dividing Range and its foothills.

Conclusion

Due to technical benefits, alongside land-use, planning and policy considerations, Pacific Hydro considers that development of the KerangLink option is more likely to unlock investment and national and Victorian economic benefits associated with Australia's critical energy transition. A staged, early deployment of this option, which also supports Towards Victoria's goals of 50% renewable energy by 2030, is recommended.

We trust that our comments provide additional perspective for the selection of the most suitable and beneficial corridor for the proposed VNI development.

Yours sincerely



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