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AEMO

Submitted by email to WestVicRITT@aemo.com.au

Western Victoria Renewable Integration - RIT-T Project Assessment Draft Report

Snowy Hydro Limited welcomes the opportunity to comment on this draft report. Snowy Hydro 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.

Identified Need

Snowy Hydro agrees that Western Victoria is an attractive location for renewable energy resources and transmission infrastructure in this region is insufficient for new generation to connect and transport electricity to major load centres.

While we are supportive of the preferred option identified in the Project Assessment Draft Report (PADR), we highlight that there remains another credible long term interconnector that would allow sharing of resources and greater competition between the the Victoria and NSW regions.

Credible Options to Address the Identified Need

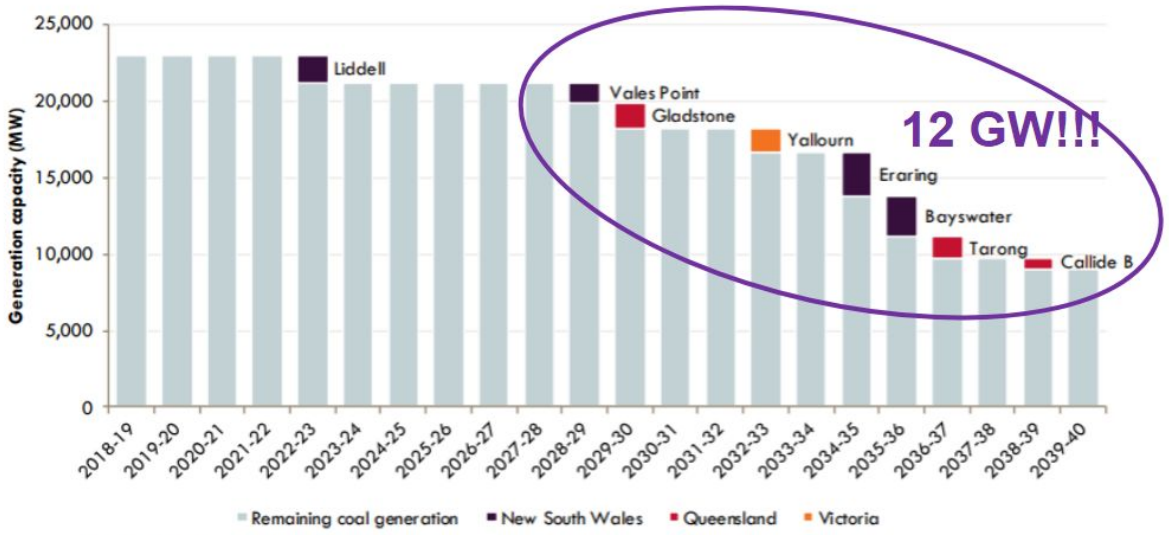
Snowy Hydro is supportive of the combined Option A1 and Option C2 to deliver net benefits and meet the identified need. In particular Option C2 provides optionality for the future ISP development including the Keranglink interconnector.

System Resilience

Earlier than expected coal plant retirement would significantly increase the net market benefits of the preferred option. This is demonstrated in Table 15 of the PADR under the "Early coal retirement" sensitivity study, Option C2 results in $163 million of net market benefits. In comparison the prefered option C2 achieved a weighted net market benefit of $79 million. This is an increase of $84 million in market benefits. Another way of looking at this is advancing the timing of major transmission would deliver material market benefits in an unforeseen event of earlier than expected coal retirement.

The figure 2 below from the 2018 ISP shows the operating life of coal generation according to the criteria of 50 years of useful economic life. Importantly, this is a technical criteria and ignores the revenue adequacy required for existing thermal plant to remain operating in a competitive market. In our opinion this risk is with earlier than expected retirement of thermal plant with trends in the continual lower Levelised Cost of Energy of both wind and solar generation.

Figure 2 NEM coal-fired generation fleet operating life to 2040, by 50th year from full operation or announced retirement



Source: AEMO ISP July 2018

Hence, we advocate for earlier than forecasted implementation of a major interconnector such as Keranglink.

Merits of Option 3b in the Victoria to NSW Interconnector Upgrade - PSCR

Snowy Hydro considers that a sufficiently route diverse Victoria northeast corridor reinforcement comprising new line(s) Murray to Dederang to South Morang (or to another metropolitan Melbourne 500 kV terminal station) should be included as credible options. Option 3b in the Victoria to NSW Interconnector Upgrade - PSCR covers the South Morang-Dederang 330kV section. We advocate Option 3b be expanded to include a new single circuit Murray to Dederang 330kV lines.

Snowy Hydro considers that upgrading Murray to Dederang with new route diverse lines in conjunction with the Dederang to South Morang path upgrade would achieve a significant increment in VIC import capability and is a credible option for increased interconnection between Vic and NSW if linked to Option 2a/3a and the future Snowy to Wagga to Bannaby line sections.

There are a number of reasons why a route diverse northeast corridor path from Murray to Dederang to South Morang (or another metro north 500kV yard) is a credible and efficient option:

- Known Upgrade - upgrade of the northeast corridor path (Murray to Dederang and Dederang to South Morang) has been included in the AEMO Victoria Annual Planning Report (VAPR) for over ten years;
- Lower Cost - The northeast corridor is the shortest geographical route between NSW and the VIC 500 kV backbone;
- Preferred Electrical Path - The series compensated Dederang to South Morang lines reduce the effective “electrical” distance between Melbourne and Murray switching station to approximately 230 km, meaning power flows from NSW to VIC

will always favour this path rather than flow via the alternate (longer) western options (unless they are significantly overbuilt to sufficiently reduce impedance);

- Less Complex - Alternately for the western options power flow control devices may be required to "force" power to flow via these longer route options. However using the northeast corridor avoids this requirement as it is already the shortest electrical route between NSW and VIC;
- Integrates with other RIT-T's - the northeast corridor upgrade option coordinates with the AEMO Western VIC Renewables RIT-T, the ElectraNet SA Energy Transformation RIT-T and REZ proposals;
- Scaleable - The northeast corridor upgrade could be constructed at 500 kV allowing for future expansion and eventual 500 kV interconnection between NSW and VIC via the eastern corridor;
- Flexible at Southern end - If entry of additional lines into the South Morang Terminal Station is constrained it would be possible to divert to one of the other 500 kV north-metro substations eg Sydenham.

Importantly, system resilience is greatly enhanced by bringing forward the timing of these options to allow for uncertainties associated with the earlier than anticipated exit of coal plant due to a multitude of macro factors.

Conclusion

The NEM is experiencing unprecedented and transformational changes as we reach an an inflexion point that will shape the future of the NEM, being a once-in-a-generation opportunity to secure an orderly transition to truly interconnected, reliable, and lower emission intensive NEM.

Bringing forward Keranglink timeframes ahead of the dates outlined in the ISP would increase system resilience and help the Victorian market reliably incorporate increased renewable generation.

Serious consideration should also be given to a sufficiently route diverse Victoria northeast corridor reinforcement comprising new line(s) Murray to Dederang to South Morang (or to another metropolitan Melbourne 500 kV terminal station) as an alternative to Keranglink. This interconnector upgrade would achieve a significant increment in VIC import capability and is a credible option for increased interconnection between Victoria and NSW if linked to Option 2a/3a (in the Vic to NSW interconnector PSCR) and the future Snowy to Wagga to Bannaby line sections. This development should be brought forward to align with the commissioning of Snowy 2.0 in 2024. This would increase the overall system resilience and provide insurance against the risk of earlier exit of coal fired generation in Victoria.

Snowy Hydro appreciates the opportunity to respond to the PADR. Any enquiries should be addressed to me by e-mail to kevin.ly@snowyhydro.com.au.

Yours sincerely,

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