5 March 2021

Mr Eli Pack
ISP@aemo.com.au
Level 22/530 Collins St, Melbourne VIC 3000

Dear Mr Pack,

re: ISP Methodology Issues Paper

ElectraNet would like to thank AEMO for the opportunity to comment on the methodology to be used in the 2022 ISP planning studies. ElectraNet is supportive of the ISP and congratulates AEMO on a comprehensive suite of planning assumptions and modelling methodology. We consider the consultation process to be comprehensive and well structured. For the avoidance of doubt, this submission is not confidential and can be published by AEMO as part of its transparent consultation process.

We would like to make the following comments and recommendations to AEMO with regards to the proposed changes in the 2022 ISP methodology:

- Supporting the adoption of anticipated projects.
- Supporting the approach to use anticipated network projects.
- Using different coefficients for different VRE (Renewable Energy) technologies and storage in REZ transmission network limits.

Supporting the adoption of anticipated projects.

The development of new VRE and storage projects is occurring faster than predicted by least-cost SRMC capacity expansion modelling. The adoption of Anticipated projects into the modelling allows for this discontinuity between what's happening in the real world and the models to be closed.

ElectraNet supports AEMO's proposal to consolidate the 'Advanced' and 'Maturing' categories as "Anticipated".

ElectraNet considers that "in the process of meeting" three out of five commitment criteria is a low threshold for inclusion in the ISP, including in counter factual studies. ElectraNet supports using the "progressing" threshold, whereby proponents have participated in the generator information survey in the last six months as a reasonable requirement for classification as an Anticipated project.

ElectraNet considers that the survey could be improved by seeking further information on "what steps have been taken to …" as a way for proponents to demonstrate that they are sufficiently advanced to be considered as an Anticipated project.

Supporting the approach to include anticipated network projects.

ElectraNet supports AEMO's proposal to include anticipated transmission projects as an input to ISP modelling requiring the same level of rigor as used for other generator, network or storage projects.

VRE and storage in REZ transmission network limits.

From the description of the ISP methodology, ElectraNet interprets that VRE builds when exceeding the network limit will drive the need for REZ transmission expansion. Storage can offset network expansion when locating in the optimal locations. This approach can be demonstrated by a simplified equation for a particular REZ as below:

REZ Solar Build + REZ Wind Build – REZ Storage Build + REZ Transmission Expansion

≤ REZ Transmission Limit

ElectraNet assumes that the current approach uses the same coefficient value (1) for different VRE technologies and -1 for storage (as proposed for the ISP 2022). If this is the case, ElectraNet believes that the current method will not accurately capture the tradeoff between local energy storage needs and REZ transmission upgrade and would instead draw on a false equivalency based on power capability. Instead, ElectraNet proposes using different coefficients for different VRE technologies and storages for various REZ as follow:

$\alpha \times$REZ Solar Build + $\beta \times$REZ Wind Build – $\gamma \times$REZ Storage Build + REZ Transmission Expansion

≤ REZ transmission limit

with $\alpha, \beta, \gamma \leq 1$.

The rationale for this recommendation is that different VRE technologies might contribute differently to the network congestion based on the depth of storage. For example, in a REZ with many existing solar projects, a new solar build will add more congestion to the network than a wind project. Storages are not available 24/7 to absorb all the excessive VRE energy. Therefore, they should not have a -100% (-1) coefficient in the equation. Similarly, deep storages (pumped hydro, 4-hour batteries) can relieve more congestion than shallower storages (1/2-hour batteries).

Further, whilst some storage and transmission investments can be optimised, ultimately local storage investment itself might require transmission support. Additional constraints would need to be included that reflected this need. This equation would look something like:

$\alpha \times$REZ Storage Build + REZ Transmission Expansion

≤ REZ transmission limit

with $\alpha \leq 1$.

Yours sincerely

Brad Harrison
Power System Planning Manager