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Friday, 7 June 2024

Dr Kris Funston
Executive General Manager
Australian Energy Regulator
GPO Box 3131, Canberra ACT 2601

Dear Dr Funston

Consultation on a Value of Network Resilience

Transgrid welcomes the opportunity to respond to the Australian Energy Regulator's (**AER**) consultation on setting a Value of Network Resilience (VNR), published on 13 May 2024. We understand this engagement is an addendum to the current 2024 Value of Customer Reliability (VCR) review, focused on resilience investments and in response to a request from Energy Minister's.

Transgrid operates and manages the high voltage electricity transmission network in NSW and the ACT, connecting generators, distributors and major end users. Transgrid is continually monitoring and maintaining our assets to ensure the safety and reliability of our transmission network and to maximise the contribution of our assets to government emissions reduction targets, by connecting diverse and low cost renewable generation and storage assets.

Extreme weather and associated events such as bushfires and extreme winds can cause significant damage to network infrastructure and impact reliability outcomes, as seen recently in Victoria. Climate change due to human-induced increases in atmospheric greenhouse gases is already exacerbating some of these threats – a trend that is likely to be more profound in future decades. Given this, it is important that networks have the resiliency to effectively withstand and recover from disruptions including extreme weather events.

Transgrid supports the AER's efforts to establish a VNR to provide transparency and clarity on the approach to justify resiliency investments. We understand that the VNR will be used to estimate the value customers place on network resilience during prolonged outages (greater than 12 hours).

We have provided feedback in the attached submission and look forward to further engagement in finalising the VNR. If you have any questions, please feel free to contact me or Sam Martin at

Yours faithfully



Monika Moutos,

General Manager, Regulation and Policy

Transgrid submission

We welcome the opportunity through this consultation to comment on the AER's proposed approach to setting a VNR. We provide key areas of feedback below.

Introduction of a VNR

Transgrid supports the AER's intention to work with stakeholders to establish an initial VNR that:

- Is attributable to the benefit network consumers receive from a resilient network, either in reduced outage probability and/or duration. In this context we agree that network resilience can be defined as a network's ability to withstand and recover from an extreme weather event that is likely to lead to a prolonged outage. However, we would support this value being utilised for any long duration outage, not just those caused by extreme weather, especially considering increasing cyber security risks.
- Supports network investments driven by a network's ability to:
 - Withstand events; for example, hardening investments (e.g. composite poles), network topology (i.e. supply path redundancy), design standards.
 - Recover from events; for example, standby mobile substations and generators, contingency standby crews, network automation, design standards (e.g. design for repairability) and communications with customers before and during outages.

Transgrid supports the development of the initial VNR in a timely manner to allow upcoming network determinations and associated consumer engagements to reflect the value placed by customers on a resilient network. However, this should not be rushed or set in a manner that limits the establishment of a well-considered long term value for use in subsequent revenue determinations, including for Transgrid's 2028-2033 revenue determination.

Transgrid understands that a lot of the AER's focus has been on distribution networks, however the recent experience in Victoria highlights the need for transmission networks to be of equal focus for setting any VNR. Given this, it is important that the AER sets an approach around the VNR that facilitates TNSP's application of the value. Transgrid is focused on providing a resilient delivery of network services in the context of increasing extreme weather events such as bushfires and floods.¹

Assessment criteria proposed

The AER have proposed the following criteria to assess the potential approaches to determining a VNR:

- Established within the required timeframe to use as part of upcoming revenue determinations in late 2024 and early 2025, noting a second best approach may be appropriate given time limitations.
- Suitability of methodology as some methodologies may be better suited to particular outage scenarios than others though the chosen approach needs to be appropriate for valuing network resilience.

¹ For more information on the likely effects of climate change in the context of the Australian electricity network – see [extensive ENA work on this matter here](#).

- Ability to localise the value to ensure calculations factor in the local context.
- Impact on network expenditure proposals different methodologies are likely to produce different VNR and therefore may have different effects on network expenditure proposals.

The assessment criteria proposed by the AER would benefit from more explicit consideration of simplicity, longevity and robustness, to inform approach choices. Key points of feedback on the criteria include:

- **Simplicity** - This would assist in meeting the existing proposed 'established within the required timeframe' criteria and would support transparency of approach for broader stakeholders. This should also factor volatility of the resulting VNR, if a complicated methodology produces volatile results over time it should be discounted.
- **Suitability of methodology** – This criteria needs to take a more explicit consideration of longevity of the approach being taken and ability to apply it consistently over time, including whilst adapting to foreseeable changes in technology and customer preferences.
- **Ability to localise the value calculation** - Appears appropriate however it is important that the AER provides guidance on the level of granularity it considers would meet this criteria, especially taking into account transmission network proposals.
- **Impact on network proposal** - It is unclear how this criteria would be practically applied and whether it is appropriate in the assessment criteria. To the extent a VNR accurately reflects a previously unvalued element of customers service preferences, then it should impact a networks expenditure proposal.
- **Length of outage** - The AER should ensure that it fully considers the potential for long term outages to ensure networks are properly preparing for the impacts of extreme weather events. Given the VCR already covers outages of up to 12 hours, it would make sense for the AER to include consideration of events up to one week, to ensure that there is valuable differentiation between the values.

VNR options assessment

The AER has proposed the following options in setting the VNR:

1. Using the costs of backup generation and other non-network solutions as a reference
2. Using a multiple of the VCR for standard outages (that is, outages of duration of 12 hours or less)
3. Extrapolating the VCR for standard outages beyond 12 hours
4. Conducting follow-up surveys to actual prolonged and/or widespread outages
5. Using modelling to estimate a value
6. Exploring other cost data.

Transgrid looks forward to seeing the AER's detailed analysis of each option under refined assessment criteria for its draft decision on a VNR.

To support the AER's assessment, Transgrid provides the following key points:

- Option 1, using rational alternatives as a limit appears pragmatic in placing a reasonable cost ceiling to the value of resilience. We agree that further analysis is required to determine an appropriate cost inflection point and would stress this analysis should appropriately consider the needs at a transmission network level. Our view is this option would most appropriately work through coupling with one or more other options tabled.
- Option 2, using a multiple of the VCR, looks to be a simple and appropriate approach going forward and agree an appropriate multiple requires further analysis. The option of a tiered-multiple approach may also be appropriate whereby an initial multiple is applied beyond the initial 12-hour window, followed by other time bracketed multiples depending on the length of outage considered.
- Option 3, extrapolating the VCR beyond 12 hours, is similarly viewed as a practical option able to provide a further point of reference for long-duration outages and be simple to apply and vary as the VCR and other factors changes over time.
- The chosen option should be workshopped with consumer representatives and networks to ensure it is acceptable to consumer groups and is a workable solution for network businesses. Any assessment by the AER should be genuinely reflective of a range of consumer views, credible, tested, and fully informed by adequate information and context.
- More complicated, but potentially more detailed and accurate approaches in Options 4-6 seem to be excluded by the timing of the AER's review and need to establish an interim value for upcoming processes. The AER should not let this stop them carrying out a longer term reform to establish a more credible VNR, especially if this is more accepted by consumer groups, given this may be an important value in revenue proposals in the medium term, including Transgrid's next revenue determination.

END OF SUBMISSION