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Dear Dr Funston,

Ausgrid response re AER's Value of Network Resilience: Issues Paper

Ausgrid welcomes the opportunity to provide this submission to the Australian Energy Regulator (AER) in response to its Issues Paper on the Value of Network Resilience (VNR) 2024. Ausgrid operates a shared electricity network that powers the homes and businesses of more than 4 million Australians living and working in an area that covers over 22,000 square kilometres from the Sydney CBD to the Upper Hunter.

The resilience of our services is becoming increasingly important and the development of a VNR will assist Ausgrid in considering future investments to improve network resilience. Over the 15-year period to FY2023, only 12 per cent of outages across Ausgrid's overhead network were caused by climate events but these accounted for 62 per cent of the time customers lost supply. As more critical industries electrify and societal reliance on electricity infrastructure deepens, the growing exposure to climate and cyber security threats has implications for how we manage the resilience of our network to reduce broader customer impacts. For example, during the 2020 bushfires, 818 telecommunication facilities were affected across NSW, of which 514 were impacted for four hours or more, causing distress and risk for affected communities.¹ Under the *Security of Critical Infrastructure Act 2018* (Cth) Ausgrid is also required, as far as reasonably practicable, to minimise and mitigate material risks to our network, including those exacerbated by climate change.²

Ausgrid customers want a resilient network and are willing to pay for it.

As part of our 2024-29 regulatory reset, Ausgrid undertook a deliberative engagement process to develop a climate resilience package designed, prioritised, and decided on by our customers. The 18-month process, which included over 80 hours of talking to more than 100 customers in high-risk areas about climate risk and resilience confirmed that, overwhelmingly, Ausgrid customers expect essential service providers to do more – and are willing to pay for these investments. Our Voice of Community Panel, a separate randomly selected group of 60 customers from across the Ausgrid network, was also supportive of Ausgrid's proposed resilience investments.

Over the 2024-2029 regulatory period, Ausgrid has an allowance of \$41.6 million to progress a range of projects to improve the network's resilience and reduce the impact of outages on customers. Our work program includes projects to build network resilience to wind and bushfire, research the impacts of extreme heat, deliver community-based resilience solutions (such as

¹ NSW Government, [Final Report of the NSW Bushfire Inquiry](#) (31 July 2020), p.198

² Part 2A, *Security of Critical Infrastructure Act 2018* (Cth)

Connecting communities,
empowering lives

the establishment of resilience hubs), and improve data sharing with emergency service partners.

Our work program also recognises that a place-based approach to resilience is essential, and that investments must be tailored around the views of impacted communities. Communities have different vulnerabilities and face different risks. They are therefore likely to place different values on alternative solutions. For instance, individual customers in some communities may see more value in network capital investment solutions vs operational solutions such as community hubs, and vice versa. This view is consistent with the NSW 2024-26 State Disaster Mitigation Plan, which states “disaster risk reduction requires a coordinated, place and community-centred approach.”³

Network resilience also encompasses the network’s ability to withstand and recover from events broader than weather related events, such as cyber security events. Our customers expressed significant concerns about the threat of a cyber-attack. Electricity networks are becoming increasingly connected and automated through advancements in operational technology. At the same time, the sophistication and frequency of cyber-attacks is increasing. Over 20 per cent of Australia’s GDP is generated within Ausgrid’s network area. This means, in a worst-case scenario, the economic impact of our network shutting down – estimated using the AER’s existing Value of Customer Reliability (**VCR**) - could be as high as \$120 million per hour, or over \$2.9 billion per day.

Ausgrid welcomes the opportunity to share our learnings from these engagement processes to support the AER in the design of a robust, longer-term methodology for VNR.

Longer-term benefits will be maximised with a comprehensive review of VNR that includes robust economic and community considerations

Ausgrid strongly supports the development of a robust, longer-term methodology for quantifying VNR over the next 18 – 24 months. A VNR methodology will help Distribution Network Service Providers (**DNSPs**) more appropriately quantify the risk of long-duration outages over the current methodology for VCR, which was not intended to represent the impacts of longer outages being considered in the Issues Paper.

In terms of a longer-term methodology, Ausgrid has not provided direct feedback on the six options proposed in the Issues Paper and instead will reserve specific comments on approaches for the more detailed review. However, in thinking through a longer-term methodology for VNR, we encourage the AER to consider the following points:

- **VNR must be informed by deliberative engagement:** Deliberative consultation, such as that run by Ausgrid for its 2024-29 regulatory proposal, can produce significantly superior results to the existing survey-based methodology used by the AER for its VCR. For a matter as complex as network resilience, Ausgrid would expect to see the AER undertake well-structured deliberative consultation with energy consumers to ensure the nuance of how customers across Australia are considering these issues is captured.
- **Resilience investment should be place-based and account for downstream impacts:** For similar reasons, Ausgrid also believes a place-based approach to resilience must be adopted. This approach would not only capture community sentiment toward resilience investment, which as noted above is reflective of the different vulnerabilities and risks communities face, but also allow networks to account for a varying breadth of the economic and social disruptions to downstream dependent entities and/or industries that a long-duration outage would cause. As noted, a significant percentage of Australia’s GDP is

³ NSW Reconstruction Authority, [2024-26 State Disaster Mitigation Plan](#), p. 9

generated within the Sydney CBD, making our network critical to Australia's national economy. These place-based considerations should be considered when determining a VNR.

- **Flexibility is needed to account for outages with differing lengths and breadths of impacts:** Ausgrid customers identified significant concerns with the resilience of our network in relation to both climate-related events and cyber security. The length of outages and the breadth of the impact caused by these events may be markedly different from historical experience. For example, while successful cyber-attacks (triggering the loss of control of the network or a system black event) and significant climate events such as bushfires or storms are likely to cause widespread outages, recovery from a cyber-attack is likely to occur within 12 – 72 hours while recovery from a major bushfire or storm may result in multi-day (>72 hour) outages. Conversely, more localised cyber-attacks or weather events triggering smaller-scale outages may be recoverable within much shorter time periods (<72 hours). For this reason, Ausgrid recommends that the VNR allow networks flexibility, or that the AER exercise flexibility itself, to apply different methodologies, if more appropriate. For example, where a network does not have recent, relevant experience (e.g. wide-spread, longer-duration outages beyond 72 hours), the AER or network should be able to supplement the VNR with alternative modelling for these scenarios.

Further, we note the scope of the AER's review does not extend to reviewing and updating its 2022 Guidance Note on Network Resilience. While we appreciate the timeframes for this initial review do not practically allow for a review of this document, we encourage the AER to consider this Guidance Note as part of its longer-term review to consider the VNR and provide further guidance on how network businesses should assess resilience investments.

Ausgrid recognises the AER is producing an initial methodology in the short term. This approach must be simple but should not become precedent for a longer-term method.

We note the AER is exploring a fast-tracked initial methodology for the VNR to be finalised in time to enable the Victorian electricity DNSPs to incorporate the VNR into their regulatory proposals which are due to the AER in January 2025.⁴ While a VNR was not able to be incorporated into the NSW DNSPs' regulatory determinations for 2024-29, Ausgrid intends to apply the initial VNR in justifying and prioritising network investments internally when it becomes available in September 2024. This will enable us to better value the customer impact of proposed investments and support greater efficacy in the investments we undertake.

Given the AER's fast-tracked timing, Ausgrid notes that only three of the six proposed methodologies outlined in the Issues Paper are viable for the initial design of the VNR. As such, in this submission we have only directly responded to these three viable options:

Option One (using rational alternatives as an upper bound): Ausgrid agrees with the AER's comments that Option One may not be appropriate as a standalone option but could be considered as an upper bound used in tandem with another option. Ausgrid does not consider this option critical for the initial methodology. Where the establishment of an upper bound introduces complication to finalising an initial VNR by September, it should not be pursued.

Option Two (using multiples of VCR): Ausgrid considers simplicity in the design of an initial VNR to be the most important consideration for the AER. For this reason, we consider Option Two as the most suitable approach for developing the initial VNR. This approach enables the VNR to draw on the existing work undertaken to develop the VCR, which is

⁴ The initial methodology may also support South Australian and Queensland DNSPs with their revised proposals, due in late November 2024.

based on extensive customer surveys. As network businesses have been using the VCR for several years in assessing network investments, it can be understood and applied more quickly by those who require this initial methodology for their regulatory proposals. We reiterate that any option relying on the VCR has inherent limitations and is not appropriate for the longer-term methodology.

Ausgrid recognises the difficulty in determining an appropriate multiple for this initial methodology. We encourage the AER, in addition to factoring in customer values, to also assess broader and downstream economic and social impacts so that the true impact of long-duration outages are fairly accounted for. For example, the three NSW DNSPs are working with the NSW Reconstruction Authority to develop practical tools for assessing the impact of network outages on other critical infrastructure, consistent with the principles within the NSW State Disaster Mitigation Plan. Ausgrid submits that, based on feedback from these ongoing stakeholder collaborations on resilience and the extensive customer engagement we undertook as part of our 2024-29 regulatory proposal, the calculated multiplier will be significantly greater than one. We would further expect that if the AER were to run robust deliberative engagement, the VNR would likely reflect an equivalent multiplier of greater than two times the VCR.

Ausgrid would welcome further engagement with the AER on what the appropriate multiple for the VCR should be if the AER seeks to adopt this option for the initial VNR methodology.

Option Three (extrapolating the VCR for standard outages beyond 12 hours): We do not consider Option Three to be as simple as Option Two. While there could be benefit in evaluating data from past events, identifying and agreeing upon the most appropriate and complete data sets may take longer than the timeframes the AER has available in this initial review.

Although Ausgrid recognises the need for the AER to move quickly in developing an initial methodology, we do not support it becoming precedent for the longer-term approach. Network resilience is complex and the methodology for how our industry values it will have real impacts on all Australian communities. In undertaking a detailed review, we encourage the AER to start afresh and approach the methodology consistently with the principles proposed above.

Ausgrid strongly supports ongoing, deliberative engagement with customers

Despite the truncated timelines for this review, Ausgrid notes the AER's intention to engage deliberatively with consumers in the development of both an initial and longer-term VNR. As noted in our previous submissions to the AER on its VCR methodology, well-structured deliberative engagement can yield richer and more trusted outcomes.

While the proposed deliberative forum in June is a welcome next step, the AER's engagement should be supplemented with broader consultation to both ensure the nuance of customer feedback is understood and that an appropriate sample size is heard from. For example, hearing from and engaging with customers who have experienced longer-duration outages may offer unique insights that would be lost if consultation is not appropriately targeted. Further, given the significance a longer-term VNR will have on electricity customers, we would expect to see a more robust and forward-planned approach to consultation for the detailed review.

An initial approach in September should be accompanied by more detail on the process and timing for determining a longer-term methodology

Finally, as part of its final report in September 2024, we encourage the AER to provide more clarity on the timing and scope of the detailed review for a longer term VNR. Certainty around the ongoing methodology will be critical for NSW DNSPs by mid- 2026, as we develop our

regulatory proposals for the 2029-2034 regulatory period. Ahead of this process, it is important for DNSPs to understand the proposed methodology to ensure economic and survey data is both available, and can be collected and analysed in time to inform an understanding of direct and downstream impacts that will guide our approach to designing future resilience investment.

We welcome the opportunity to further discuss our submission with the AER. Please contact Emma Vlatko, Senior Policy Adviser at [REDACTED] for further information.

Regards,

[REDACTED]

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