

10 July 2026

Kami Kaur
A/Executive General Manager Network Regulation
Australian Energy Regulator
Via email: AERInquiry@aer.gov.au

Dear Ms Kaur,

Ausgrid response re: AER Network Resilience Guidelines Consultation Paper

We are pleased to respond to the Australian Energy Regulator's (**AER**) *Network Resilience Guidelines Consultation Paper* (**Consultation Paper**). 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.

Climate related events are increasing in frequency and severity, impacting the resilience of Ausgrid's network and the ability of the communities we serve to withstand and recover from them. Over the past 10 years, 61 per cent of outage minutes in Ausgrid's network were caused by weather related events. We acknowledge that recent AER determinations have supported expenditure allowances for resilience activities. However, due to a lack of clarity around how this expenditure is proposed and assessed, these outcomes have come with a significant burden for networks, our customers and the AER.

In recognition of this growing need for clarity, the Australian Energy Market Commission (**AEMC**) last year made a final rule change determination, formally establishing a distribution network resilience framework under the National Electricity Rules (**NER**). The AER's Network Resilience Guidelines (the **Guideline**), which this Consultation Paper considers the design of, is an instrumental component in this new framework.

Ausgrid welcomes the release of this Consultation Paper and looks forward to engaging further with AER staff. However, for the reasons set out below, we are concerned this consultation process has commenced with limited time for the AER to implement the reforms needed.

The AEMC's Final Determination should form the foundation for new Guidelines

Ausgrid thanks the AER for its proactiveness in delivering the 2022 Guidance Note on Network Resilience (**2022 Guidance Note**). In the absence of a formal regulatory framework, it has served a useful purpose as an interim measure. However, its application through recent determinations revealed a number of limitations that left DNSPs unclear on what was expected of resilience proposals and uncertain as to how they would be assessed, ultimately contributing to significant regulatory burden for all parties. The AEMC considered these arrangements through its rule change process and, noting the need for greater flexibility and a more consumer-focused approach, ultimately determined that there was a clear need for a formal regulatory framework on resilience expenditure.

The AEMC's final determination responds to this need with a new framework in the NER designed to improve clarity, flexibility and accountability for distribution network resilience expenditure. This framework better

reflects the complexity and variability of climate risk across different perils, geographies and networks, and most importantly, centres assessment on consumer outcomes – the extent to which resilience expenditure will ‘reduce the risk and impact on customers of power outages caused by severe weather events’¹.

Ausgrid acknowledges the AER’s openness to consider new perspectives through this consultation. Given the limitations of the 2022 Guidance Note, and the depth of analysis and feedback underpinning the AEMCs Final Determination and Final Rule, we feel strongly that strongly that clause 6.4.6 of the NER, which sets out the information required within the Guidelines, is a more useful starting point for a consultation and will better enable the detailed and broad input required to shape a genuinely effective new Guideline.

A coordinated approach would deliver more comprehensive network resilience reform

This Guideline is part of a “larger program of work to improve electricity distribution network resilience”². Recognising the dependencies this Guideline would likely have, in its final rule change determination the AEMC explicitly allowed for it to be “included as part of another guideline”³. Most notably, this Guideline will need to be read and understood in conjunction with the AER’s Value of Network Resilience (**VNR**) methodology.

Given their complementary functions, it was Ausgrid’s expectation that the AER would progress the development of this Guideline in parallel with a longer-term VNR methodology. The Consultation Paper does not seek stakeholder feedback on this issue and, given time constraints, it is now unrealistic to incorporate the two reform processes together. We consider this a missed opportunity for the AER to provide all stakeholders a comprehensive and complete framework for network resilience expenditure.

More generally, we note that the AER intended to develop its longer-term VNR methodology “in early 2025”⁴. We understand this work is yet to begin, which we recognise may reflect competing priorities. The consequence, however, is that NSW, ACT and Tasmanian DNSPs must rely on the interim VNR methodology for their 2029-34 proposals. We do not consider this a good outcome for consumers. The interim VNR was developed under significant time constraints and, as such, simplicity was valued highly when selecting a methodology. A proper design process, with adequate time allowed for consultation, is required to ensure the VNR methodology is appropriate.

The Guidelines may be quickly outdated if they do not consider ongoing DNSP reporting reforms

On 16 July, six days after this consultation closes, the AEMC is scheduled to release its final *Enhancing Distribution Network Planning & Reporting* rule change determination. The rule change is expected to reform DNSP annual reporting by replacing the Distribution Annual Planning Reports (**DAPRs**) with a five-yearly Distribution Network Development Plan (**DNDP**) and annual updates.

The timing of this rule change complicates the AER’s current consultation. Under clause 6.4.6(a)(3) of the NER, the AER is required to ‘specify the [network resilience] information DNSPs must include in their DAPR’ from 2028. However, should the AEMC’s current rule change proceed as expected, DNSPs will no longer be producing DAPRs by this date, making this guidance effectively redundant.

¹ AEMC, [Rule Determination: National Electricity Amendment \(Including Distribution Network Resilience in the NER\) Rule](#) (8 May 2025), p24

² Ibid, p43

³ Ibid. p12

⁴ AER, [Final Decision: Value of Network Resilience](#) (September 2024), p 33

While we acknowledge that the AER is currently legally obliged to include guidance on DAPR reporting, the Consultation Paper does not acknowledge these planning and reporting reforms or seek stakeholder views on how its Network Resilience Guidelines should manage this transition.

For these reasons, the AER could develop interim Guidelines at this time and formally commit to pursuing more substantial reforms next year in parallel with the implementation of the DNDP Guidelines and a longer-term VNR methodology. While this would cause NSW, ACT and Tasmanian DNSPs to rely on interim Guidelines for their 2029-34 regulatory proposals, it is our view that a coordinated approach to developing these regulatory instruments provides the greatest long-term clarity for all stakeholders, and therefore the best outcomes for consumers.

To aid the AER in the development, Ausgrid has prepared more detailed, practical feedback, at **Appendix A**, which we believe is implementable in the remaining time available to the AER. This feedback is structured into five key themes:

1. **Expanded definitions:** Establishing a more comprehensive list of definitions within the Guidelines will be critical in establishing a common understanding on the scope of network resilience investment.
2. **Principles-based framework:** The three criteria presented at Section 4.2 of the Consultation Paper are narrow and inflexible. Ausgrid has proposed five principles that would give DNSPs flexibility to apply trusted science, robust modelling and place-based assessment while maintaining transparency and rigour for customers and the AER.
3. **Earlier certainty:** Greater upfront clarity on methodologies, assumptions and outputs likely to be accepted by the AER will ensure DNSP's investment in detailed modelling and customer engagement is well-targeted and proportionate. This can be supported by collaboratively developed examples.
4. **Fit-for-purpose reporting:** Ausgrid supports improved transparency around resilience investments. To reduce associated administrative and cost burdens, new requirements should build on, rather than duplicate, existing reporting such as through Annual Information Orders.
5. **Incentive schemes:** Ausgrid agrees that incentive schemes should account for potential reliability benefits but impacts are complex and uncertain, making anticipatory STPIS adjustments impractical.

Ausgrid is committed to providing informed and practical support to the AER as it develops its Guidelines, and we welcome the opportunity to engage further. Please contact Saskia Peters, Senior Policy Advisor at [REDACTED] should you wish to arrange a discussion.

Regards,

[REDACTED]
Mark Ragusa
Acting Group Executive Network & Digital

Appendix A – Ausgrid detailed feedback on AER Resilience Guidelines Consultation Paper

Given timing constraints and the uncertainty over other relevant ongoing reforms, Ausgrid recommends the AER pursue interim Network Resilience Guidelines at this time. This Appendix provides detailed feedback to the AER on how it could make interim Guidelines fit-for-purpose. Our feedback is grouped into five themes.

1. The Guideline must expand definitions beyond network and community resilience

Sections 4.1 and 4.3 of the Consultation Paper seek stakeholder feedback on the definitions for ‘network resilience’ and ‘community resilience’. We strongly agree that appropriately defining these two distinct terms is critical to the regulatory treatment of proposed resilience-related expenditure. For this reason, we do not consider the definitions from the 2022 Guidance Note are appropriate. Instead, we ask the AER to consider how best-practice definitions (across Australia or internationally) could be adopted and/or applied for this Guideline:

- **Network resilience:** the Institute of Electrical and Electronics Engineers (IEEE) defines resilience as *‘the ability to withstand and reduce the magnitude and/or duration of disruptive events, which includes the capability to anticipate, absorb, adapt to, and/or rapidly recover from such an event’*⁵. This definition, already adopted by other international jurisdictions, better reflects best practice prevent, prepare, respond and recover (PPRR) frameworks already enshrined in Australian disaster management⁶. It also responds to the expectations now embedded in the NER for networks to reduce the impact and consequences of outages.
- **Community resilience:** we propose this definition is similarly expanded to better reflect accepted PPRR frameworks. The Australian Institute for Disaster Resilience (AIDR) adopts the internationally accepted definition of *‘the ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effect of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions’*⁷. The National Strategy for Disaster Resilience⁸ describes disaster resilient communities as those that function well under stress, adapt successfully, are self-reliant, and have strong social capacity. This speaks to the concept of shared responsibilities and captures initiatives like Ausgrid’s outage planning engagement program that target self-reliance and self-insurance.

While defining these two terms is important, we consider a more comprehensive list of definitions to be critical in establishing a common understanding on the scope of network resilience investment. Defining key terms helps provide clarity around which events, impacts, outages and consequences are relevant, and therefore which interventions can be valued and assessed. We encourage the AER to consider documents such as the [NSW Treasury Disaster Cost-Benefit Framework](#) (NSW Disaster Cost-Benefit Framework) which, in Ausgrid’s opinion, demonstrate the breadth of definitions required. Ausgrid also suggests that the AER establish a stakeholder working group to settle on the proposed list of defined key terms, in advance of consulting on a draft Guideline.

As just one illustrative example, Ausgrid points to ongoing confusion over the treatment of ‘severe weather events’, ‘major event days’, and fixed outage duration thresholds. In January 2025, a squall line weather

⁵ IEEE, [The Definition and Quantification of Resilience](#) (Technical Report PES-TR65), April 2018, p.1

⁶ AIDR, [Disaster Risk Reduction: National DRR Framework](#)

⁷ AIDR [Australian Disaster Resilience Glossary](#), and United Nations Office for Disaster Risk Reduction, [Definition: Resilience](#), 2017

⁸ Council of Australian Governments, [National Strategy for Disaster Resilience](#), February 2011

system⁹ hit Ausgrid's network. This was one of the most destructive incidents on our network in 20 years, leaving more than 210,000 customers without supply over multiple days. While, to the lay person, this was undoubtedly a 'severe weather event', the term 'severe weather event' is not defined in the NER¹⁰ nor has the AER proposed a definition for inclusion within its Guidelines.

Commentary within the Consultation Paper further reinforces the risk of stakeholder confusion. The AER states "the key factor in determining whether the expenditure is resilience-related... is whether the primary driver or need for the expenditure is to address outages of more than 12 hours from extreme weather events."¹¹ Ausgrid assumes this position has been informed by the VNR threshold - a methodology to *value* particular types of outages, not *define* which ones are in scope for resilience. In the case of the January 2025 event, while the overall impact was clearly severe, many outages were individually shorter than this 12-hour threshold, casting doubt on how it would be treated within the resilience expenditure framework.

2. A principles-based framework will better manage the complexity of climate resilience and ultimately deliver better outcomes for customers

Ausgrid does not support retaining the three criteria set out in Section 4.2 of the Consultation Paper from the 2022 Guidance Note. In our view, these criteria established a bias towards a narrow and inflexible range of modelling approaches, evidence types, and methods that are better suited for reliability than resilience outcomes. We instead consider a more fundamental revision is required.

Climate conditions, and our understanding of their impact on electricity networks and the communities they serve, continue to evolve. In making its final rule, the AEMC emphasised the need for flexibility to account for differences between DNSPs, climate risks, consumer preferences and asset management approaches. While we understand the administrative appeal of simplicity and standardisation, our concern is that the approach in Section 4.2 leaves the Guideline ill-equipped to manage the complexity of this expenditure. For example:

- **Historical outage data:** Historical information can provide a useful starting point for modelling network impacts that, if used in conjunction with climate forecasts, can support assessment of the probable severity, frequency and location of outages. However, models must be allowed to account for probable events that have not occurred yet within the reference data. For example, historical data that includes the impact of a 1-in-20 year storm will present a very different picture than data that does not, yet the potential for such an event to occur in coming years remains. Historical data should be used to understand likely impacts and inform vulnerability curves across asset classes and geographies, and to calibrate models, rather than as the sole basis of a model.
- **Standardised templates:** The AER has proposed requiring businesses to provide data in a standardised template. Ausgrid strongly opposes this proposal. Standardised inputs will not necessarily enable like-for-like comparisons, as they may mask material differences in analytical methods, network context and customer impacts. They also risk biasing investment towards solutions that are easiest to report, rather than those that best address resilience needs. For example, a span-by-span model can assess the probable benefits of covered conductors far more accurately than a feeder-level model, even if the outputs appear similar in a simplified template.

In developing the Guidelines, we urge the AER to develop new principles, focused on the concepts and outcomes that will ensure resilience expenditure is proposed and tested with trusted science, proven

⁹ Ausgrid, [FY25 Business and Sustainability Review](#), 2025, p45

¹⁰ We note that the AEMC, on page 54 of its final rule change determination, declined to define this term within the NER because it considered the definition more appropriately sat within the AER's Guidelines.

¹¹ AER, [Network Resilience Guidelines Consultation Paper](#) (June 2026) p13

methodologies and transparent assumptions. Ausgrid has proposed five principles below that we consider a good starting point for further consultation and refinement:

Principle 1: Identified need - Resilience need should be identified through a holistic assessment of forecast climate risk, modelled network impacts *and* the risk and impact on consumers

Ausgrid agrees that resilience expenditure must begin with a clear, identified need. However, in our view, there are three elements of 'need' that the Guidelines must account for:

- **Forecasting climate risk:** we agree that this should continue to be aligned with established and recent climate science and expertise.
- **Forecasting network impacts:** as noted above, historical outage data can be useful in calibrating models but it, and base year comparisons, cannot be relied upon alone to forecast the severity, frequency and location of outages.
- **Forecasting customer impacts:** consistent with the final Rule, networks should assess 'the risk and impact on consumers of power outages caused by severe weather events'¹². Seemingly similar outages have very different impacts on customers, influenced by factors like downstream services (e.g. telecommunications), local capacity and the chaotic context in which the disaster occurs.

Consistent with the intent of the AEMC's final rule change determination, the Guidelines should not require DNSPs to demonstrate a causal relationship between these needs. We agree with the AEMC that this requirement "would risk unnecessarily narrowing the range of distribution network resilience programs or initiatives that DNSPs may demonstrate are prudent and efficient."¹³ Instead, Ausgrid strongly supports Guidelines that support the use of probabilistic modelling approaches, similar to those set out in the NSW Disaster Cost-Benefit Framework¹⁴. Probabilistic modelling is specifically designed to manage uncertainty and protect from both over- and under-investment by demonstrating the probable benefits of investments across the full distribution of plausible future scenarios, rather than a single deterministic forecast or baseline.

Principle 2: Use place-based approaches - solutions should be designed, tested and assessed on their merits for the specific geography, network infrastructure and customer risks they target

Solutions that are prudent and efficient in one location may be ineffective in another. The Guidelines should enable DNSPs to take a place-based assessment approach, which is well established in Australian disaster resilience policy¹⁵. DNSPs should be encouraged to assess local climate hazards, geography, network configuration and community circumstances when developing resilience expenditure proposals. Coupled with a broader assessment of identified need, this approach would provide flexibility without weakening the rigour or testing of efficient options. Ausgrid has two reasons for this recommendation.

Firstly, a 'place-based' approach identifies resilience needs and assesses solutions based on the specific characteristics of each location, rather than applying interventions uniformly network-wide. These assessments are solution agnostic, protecting against structural bias towards a particular solution, or expenditure types like capital expenditure (**capex**) and operating expenditure (**opex**), that may not be best fit-for-purpose to the place's need. For example, Ausgrid originally proposed composite

¹² AEMC, [Rule Determination: National Electricity Amendment \(Including Distribution Network Resilience in the NER\) Rule](#) (8 May 2025)

¹³ Ibid. p19

¹⁴ NSW Treasury, [Disaster Cost-Benefit Framework](#), October 2023

¹⁵ NEMA, [National Disaster Risk Reduction Framework](#), April 2019 p20

poles to address bushfire risk in our 2024-29 proposal but later identified that bushfire wraps could address the risk in targeted areas much more cost-effectively. It would be easy to look at this outcome and assume that bushfire wraps should therefore always be the preferred solution, but this fails to account for the variability in perils and geography. Bushfire wraps address ground fire risk but are ineffective against canopy fires. In about 30 per cent of Ausgrid's bushfire prone locations, canopy fire is the primary risk exposure and bushfire wraps would have negligible benefit.

Secondly, a place-based approach enables resilience expenditure to align with jurisdictional arrangements and the role of other parties, reflecting the AER's recognition that resilience is a shared responsibility¹⁶. Ausgrid's Community Resilience Hubs program demonstrates this: through Central Coast Council's place-based planning, the Yarramalong community identified a need for resilient back-up power. Deliberative engagement held with this community, in support of Ausgrid's 2024-29 regulatory proposal to the AER, allowed Ausgrid to identify, plan for and fund a solution to this community need, in partnership with the Yarramalong School of Arts Hall. This example also highlights the risk of limiting opex or non-network initiatives to 'exceptional events', as the customer-supported solutions that most efficiently improve self-reliance and align with Ausgrid's role may fall outside that narrow definition. Ausgrid considers the AER's commentary in the Consultation Paper on opex unnecessarily limiting, especially at this early stage, and encourages a more openminded approach in future consultations.

Principle 3: Leverage existing evidence, expertise and methods – networks and the AER should adopt established science and validated methodologies

Ausgrid strongly agrees with the AER that good climate risk modelling align "with established and recent climate research". We consider that this principle could be strengthened by applying it across all aspects of resilience, including modelling and forecasting methodologies and the selection of key assumptions.

Anchoring the Guideline to "recent climate research" would support AER staff to assess technical material. For example, the NSW Department of Climate Change, Energy, the Environment and Water recently released guidance on selecting climate scenarios¹⁷ to advise on 'the appropriate, consistent and transparent selection of climate scenarios'. Demonstratable reliance on authoritative guidance like this would provide AER with a level of assurance that a DNSP has met accepted standards in the development of its proposal.

This approach would also keep the Guidelines flexible and better able to accommodate evolving climate science, placing an appropriate onus on DNSPs to stay up to date with best-practice climate modelling and apply it in their resilience proposals.

Principle 4: Transparent and evidenced assumptions – all parties should be held to the same standard of evidence for the assumptions they apply, adjust or substitute

The Guideline should establish clear expectations for all parties, around the evidence and documentation required to support modelling, decision making and assessment assumptions. In Ausgrid's view, this principle will improve transparency by requiring all parties, including DNSPs, the AER and any technical advisors, to demonstrate their actions were well-reasoned and evidenced.

These expectations should not require DNSPs to simplify complex models, methodologies or assumptions. Instead, they should encourage DNSPs to transparently demonstrate how complex, best-

¹⁶ AER, [Network Resilience Guidelines Consultation Paper](#), June 2026 p19

¹⁷ NSW DCCEEW, [Selecting climate scenarios: key criteria and principles](#), June 2026

practice models have been applied, so the AER can interrogate them without needing to undertake duplicative modelling. This would support continual improvement in the depth and sophistication of DNSP modelling. For example, Monte Carlo analysis, recommended by the NSW Government as best practice for managing climate risk and uncertainty, uses random sampling to test thousands of possible outcomes. While it requires specialised software, large datasets and significant computation, it can produce clear graphics showing how the benefit-cost ratio distribution changes under different timing scenarios. This helps customers and regulators understand the likely benefits of investment, even where the underlying modelling is complex.

Principle 5: Proportionality of treatment – the depth of evidence, assessment and engagement should be appropriate for the materiality of the expenditure, risk or issue in dispute

Networks should be encouraged to scale evidence, assessment and engagement proportionate to the materiality of the expenditure, the risk being addressed and the complexity of solutions. Similarly, expectations for substantiation and reworking of expenditure proposals should also be proportionate to the issues in contention and the materiality of their impact.

This principle is important in setting expectations for modelling and evidence in proposals. There is effectively no limit to the granularity of climate and asset impact modelling, and work can always be further refined, disaggregated or extended. However, each additional layer carries a real cost, and beyond a certain point will not materially change the outcome. The Guidelines should therefore require the depth of modelling expected to be justified by the expected contribution to the decision at hand, rather than pursued for its own sake. This will avoid unwarranted and excessive investment of time and effort, reducing regulatory burden and increasing overall efficiency.

This principle is also important for customer engagement. The Consultation Paper expects networks to only offer customers options first subjected to rigorous and robust analysis and deemed prudent and efficient. At the same time, however, the AER, warns against unnecessarily narrowing options presented to customers. Ausgrid's experience of our 2024-29 deliberative engagement on resilience was that the engagement criteria placed a very real emotional and practical burden on customers, yet their preferences ultimately had little bearing on expenditure outcomes. This eroded trust, caused undue disappointment and contributed to additional engagement fatigue. It seems at odds with regulatory efficiency goals and concern for customers to expect networks to fully model every speculative solution for presentation to customers whose preference ultimately have limited influence. The AER must also acknowledge that networks are one of many engaging with customers on these issues, and customers are repeatedly asked to relive often traumatic events.

The Guidelines should allow networks to scale engagement appropriately and encourage the use of existing, robust evidence bases, previous engagement outcomes and existing willingness to pay mechanisms wherever they remain valid, rather than mandating engagement for engagement's sake.

3. DNSPs need earlier certainty on acceptable methodologies, assumptions and outputs to invest prudently in more detailed resilience proposal development

Consistent with Principle 5 above, Ausgrid considers that greater upfront certainty on the models, methodologies, assumptions and outputs likely to be accepted by the AER when resilience proposals are assessed would support more efficient expenditure proposal development. Specifically, earlier certainty would ensure that subsequent investment in detailed modelling, proposal development and external engagement is well-targeted, efficient and proportionate, reducing the risk of major, costly revisions and customer disappointment later in the regulatory reset process.



Under clause 6.4.6 of the new rule, the Guidelines must ‘provide examples of the types of information DNSPs could include in their regulatory proposals to support forecast resilience expenditure’. Ausgrid encourages the AER to develop these examples collaboratively with DNSPs, in advance of publishing the draft Guidelines. While the examples need not be exhaustive, they should reflect a range of climate perils, network types, geographies and analytical approaches. Practical case studies or worked examples showing how best-practice modelling, climate risk assessment or authoritative guidance can be applied would be more useful than theoretical exercises or standardised templates.

The Guideline should also set clear expectations for how models, assumptions, adjustments and alternative modelling are justified, evidenced and documented in both the development and assessment of proposals. Together with practical examples and early engagement, this would improve efficiency and reduce the burden on all parties over time.

More broadly, we suggest resilience expenditure proposals could be supported by early engagement between the AER and DNSPs to align on scope and timing for proposed methodologies and assumptions, and outputs or evidence. Early discussions would give DNSPs a stronger basis to progress targeted asset-level modelling and engage customers on realistic, well-founded options, consistent with the intent of the Consultation Paper.

4. Reporting requirements should be fit-for-purpose, build on existing mechanisms and reflect the realities of resilience investment

Ausgrid thanks the AER for considering how existing mechanisms, like Annual Information Orders (**AIO**), can enable new reporting requirements. Building on, rather than duplicating, existing reporting will help reduce the administrative and cost impacts to both networks and the AER. We note that Ausgrid already reports publicly on our Climate Resilience Program in our annual Sustainability Report and to regular IPART audits on our capacity to ‘withstand and adapt to the impacts of climate and climate change’. Our public reporting for customers and stakeholders focuses on physical delivery – the volume of assets hardened, upgraded or deployed - alongside community resilience activity and program expenditure.

We agree with the AER that the AIO’s are likely to be a more suitable pathway for reporting on the delivery of resilience expenditure than the DAPR. Prioritising reporting within the AIOs may also address some of Ausgrid’s concerns, noted in the cover letter, about managing a transition from the DAPR to the DNDP.

When considering specific reporting requirements and how they are assessed, we ask the AER to have regard to the following characteristics of resilience expenditure:

- Established metrics for reliability, like SAIDI (System Average Interruption Duration Index), work well on an annual basis because they rely on a relatively stable pattern of high volume, low impact events. By comparison, resilience investment prepares the network for high impact, low probability events. This makes year-on-year statistical comparison far less meaningful, nor can we expect to see material benefits emerge within such a short timeframe. Metrics should use long-term averages, and benefits should be expected over decades, rather than within a single regulatory period. Ausgrid has recently implemented a Customers Experiencing Long Interruption Durations (**CELID**) metric¹⁸ and is using a five-year moving average to measure network resilience.
- Expenditure for new and adaptive programs often has a non-linear profile across a regulatory period, particularly for emerging technologies like bushfire wraps. Detailed asset planning, engineering design and testing must be completed before physical delivery and major capital drawdown ramps up in later years. Multi-year capital programs must also flex around external impacts like supply chain disruptions or

¹⁸ IEEE Std 1366-2022, *IEEE Guide for Electric Power Distribution Reliability Indices*.

emergency response diverting field crews. Annual financial snapshots can misrepresent a prudent, long-term delivery profile and should be interpreted with appropriate caution.

5. Existing adjustment mechanisms and protections sufficiently address the unpredictable impacts of resilience investment on incentives schemes

Ausgrid supports incentives schemes under the NER appropriately accounting for potential benefits from resilience investment and note the requirement under Clause 6.4.6 for the Guideline to explain how this type of investment will be address by incentives schemes. Resilience expenditure most naturally interacts with the Service Target Performance Incentive Scheme (**STPIS**). However, in our view requiring networks to offer anticipatory adjustments for complex and uncertain STPIS impacts will do very little other than to increase regulatory burden. Instead, DNSPs should be able to make adjustments over time, as the impacts of climate events and investments materialise. Existing functions within the regulatory framework already enable this.

The STPIS was designed for a relatively stable operating environment, where historical reliability performance provides a reasonable benchmark for future performance. Because of the impacts of climate change, DNSPs are facing increasingly challenging operating conditions, which will contribute to worsening reliability outcomes for customers. While resilience investments could potentially improve reliability, those improvements may only partially offset this worsening operating environment and, in some cases, may be outweighed by it.

Resilience investments could also result in events that would historically have exceeded the MED threshold being captured as non-MED events. This could be very marginal: on 30 August 2023, Ausgrid recorded a daily SAIDI of 3.01 against an MED threshold of 2.99. A small improvement that day could have added almost three minutes to our measured performance and a significant STPIS penalty.

As a result, the overall impact will inevitably reflect a mix of 'overs and unders', making it difficult to know in advance whether resilience investment will improve or worsen STPIS outcomes relative to the applicable targets. On this basis, we suggest that the most efficient and accurate mechanism is through existing STPIS target adjustment made every five years. In our view, this will sufficiently account reliability improvements over time and ensure reliability improvements are not double counted.

Finally, we note that the capital expenditure sharing scheme (**CESS**) and efficiency benefit sharing scheme (**EBSS**) incentivise efficient management of expenditure that the AER has assessed as prudent and efficient. Resilience expenditure should be exposed to the same rewards and penalties for efficient management as any other expenditure category.