Endeavour Energy
ABN 11 247 365 823
T 133 718
Level 40-42, 8 Parramatta Square
10 Darcy Street
Parramatta NSW 2150
PO Box 811, Seven Hills NSW 1730

7 November 2024

Mr Andrew Pirie
Australian Energy Markets Commission (AEMC)
Level 15, 60 Castlereagh St,
Sydney NSW 2000

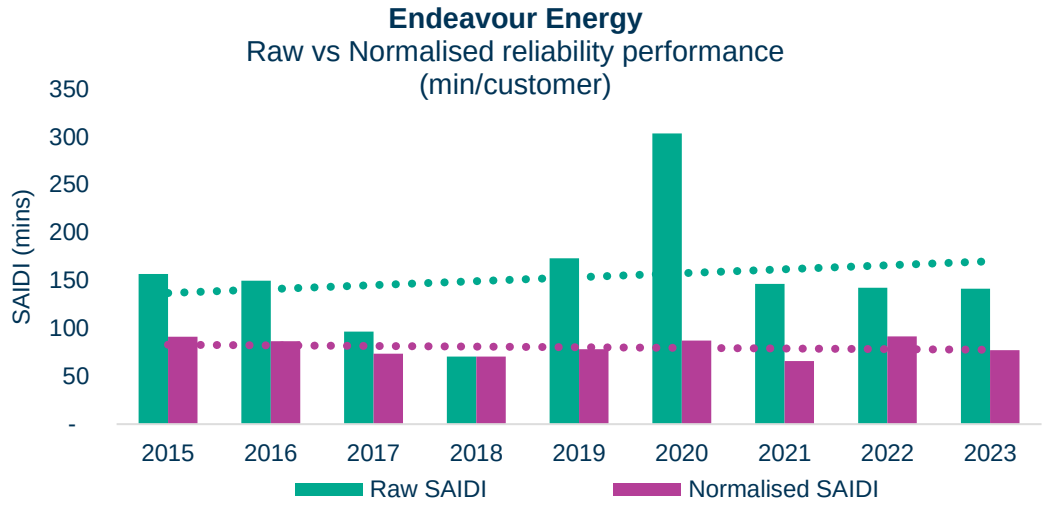
Dear Mr Pirie,

Consultation paper – Including distribution network resilience in the National Electricity Rules (NER) (ERC0400)

Endeavour Energy appreciates the opportunity to provide feedback to the AEMC's *Including distribution network resilience in the NER* consultation paper.

Distribution networks are vulnerable to risks from the impacts of extreme weather events which are increasing in frequency and severity with the impacts of climate change. While 'reliability' focusses on average network performance during normal conditions and unplanned outages, 'resilience' extends beyond this and focusses on the ability of a network to withstand and recover from extreme events, e.g., the effect of Major Event Days (MEDs). The distinction between these two concepts is reflected in the difference between raw and normalised reliability performance, as illustrated in Figure 1 below:

Figure 1: Raw vs normalised reliability performance



Since the introduction of the Service Target Performance Incentive Scheme (STPIS) for Endeavour Energy in 2015, there has been a marked improvement in reliability. This demonstrates the effectiveness of the incentive framework as our service quality has improved in parallel with a large reduction in expenditure over the same period.

However, there remains a consistent and growing gap between raw and normalised reliability performance. This disconnect is likely to persist, and most likely widen, with the increasing frequency and severity of climate events. It may also reflect the distinction between these concepts from a regulatory perspective in that reliability is well-captured while resilience less so. From a customer perspective, this nuance is likely academic as they experience the impacts of climate change regardless of whether it is excluded or not for reliability reporting purposes.

As such, customer expectations have changed in recent years and resilience has emerged as a key priority. In our 2024-29 determination engagement program, managing resilience was considered the second most important priority (behind safety, affordability and reliability) and, with costs taken into account, remained second (behind supporting the energy transition). Our Customer Panel favoured Endeavour Energy taking a more proactive approach to resilience, which aligned with the feedback of our stakeholder deep dives.

Managing resilience can involve both proactive actions focussed on matters like planning standards, network hardening and damage prevention, and reactive actions like system recovery, repairs and survivability (e.g., stand-alone power systems and back-up generation).

It is in the long-term interests of customers for networks to strike (or be incentivised to strike) an efficient and prudent balance between these preparatory and reactive options. This poses two key questions about the regulatory framework:

1. Does it accommodate the proposal, approval and/or substitution and ultimately execution of expenditure related to either pre-emptive or reactive network resilience?
2. Does it promote the efficient and prudent level of spend and service quality with respect to network resilience?

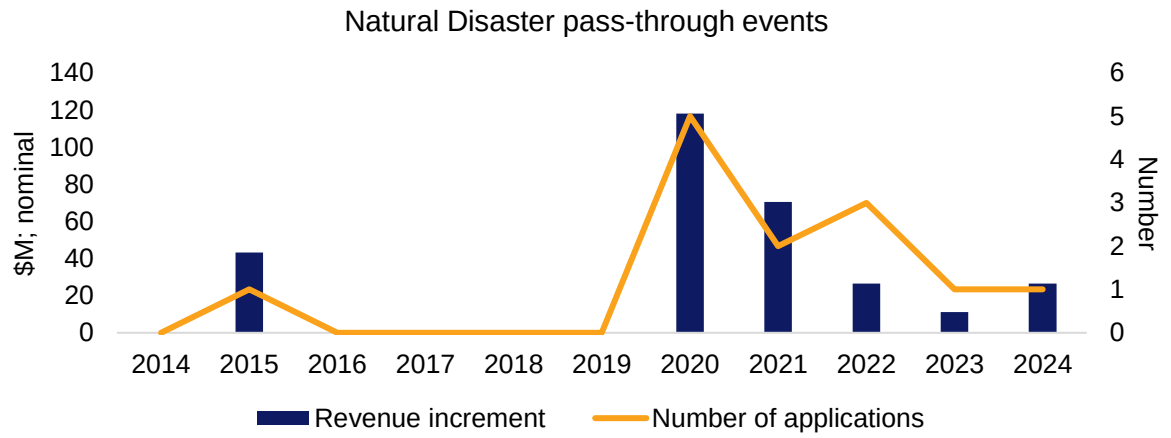
Network resilience within the regulatory framework

In the AER's classification of 'common distribution services', the non-exhaustive list of activities includes '*planning, design, repair, maintenance, construction and operation of the distribution network*' and '*works to fix damage to the network*', both of which cover proactive and reactive management of network resilience. Further, the expenditure objectives refer to maintaining both '*the quality, reliability or security of supply*' and '*the safety of the distribution system*'. Again, whilst not expressly referenced, these objectives cover activities related to managing network resilience.

As such, DNSPs have proposed, and the AER has approved, substituted or rejected, proactive expenditure on network resilience as part of regulatory determinations and/or cost-pass through determinations related to natural disaster events. However, we agree with the rule change proponent that to date, the regulatory framework has favoured ex-post mechanisms (i.e., cost pass-throughs) in managing network resilience events.

This can be observed in the increasing number of pass-through applications related to natural disasters with 12 of the 13 applications occurring within the last 5 years, as illustrated in Figure 2 below:[1]

Figure 2: Natural disaster pass-through events (2014-2024)



[1] The count is by commencement (i.e. application) date and the revenue increment reflects the approved adjustment to revenue made to the current regulatory period noting this does not reflect the full revenue impact over the life of approved additional capex.

At the same time, DNSPs have begun to propose resilience related capex in regulatory determinations as a separate and distinct category. Most notably, in the ACT/NSW/NT/TAS 2024-29 determinations (by our analysis) $573M ($M; FY24) of resilience capex was proposed by the networks (6% of total capex proposed). Of this, $386M was approved with the 33% reduction the largest reduction to any category of proposed capex for the 2024-29 period.

We do not consider this outcome reflects a restriction within the regulatory framework on the AER's ability to assess, substitute and/or reject resilience related expenditure. Rather, it likely reflects this area of spend being relatively new. For instance, an AER guidance note was released in April 2022 in parallel with the 2024-29 process rather than prior to networks preparing initial forecasts and business case documentation. Further, a value of network resilience (VNR) was not released until September 2024 (after the 2024-29 reset) which, if it had been available prior to the reset, would have provided a key input to developing expenditure proposals and supporting cost-benefit analysis.

Potentially, in time, decision precedents in combination with the guidance note and VNR will reduce the discrepancy between what some DNSPs and the AER consider to be efficient and prudent levels of network resilience spend. Currently, however, we continue to observe a divergence between networks with resilience proposals ranging from no expenditure to $450M+. We also note the current guidance is in the form of a non-binding note and the VNR is an 'initial' and 'pragmatic' estimate that the AER intends to undertake further work on to determine a more robust, longer-term VNR.

We therefore consider there is merit to the proposal to replace the non-binding guidance note with a formal guideline relating to resilience expenditure. While there is a clear intention to update the VNR, industry would benefit from greater certainty being provided regarding what constitutes an efficient and prudent proposal with respect to resilience. With that in mind, it would be appropriate for the formal guideline to address the following matters:

- the types of events, projects and classes of market benefits that can be considered as part of a network resilience case for investment;
- the scope of resilience-related activities a DNSP can include within an expenditure allowance. This clarity is important as our customers and other utilities and agencies are increasingly asking DNSPs to contribute more towards building network and broader community resilience. It will also help Government clarify where funding gaps may exist so that they can intervene where necessary;
- the process for determining the optimal timing of investments and balance between proactive and reactive actions; and
- the role and treatment of scientific climate modelling and determining its impact on incremental resilience expenditure. We note that different climate modelling, time periods and scenarios used can greatly vary the expenditure required.

Promoting an efficient and prudent level of network resilience

Given the uncertainty and severity of extreme weather events, striking the right balance between proactive and reactive actions to manage network resilience is particularly complex. Doing so often requires detailed, long-term modelling on the impacts of climate change on specific network locations. Potentially, a pre-emptive approach to adapting to these changing circumstances will become more efficient and prudent in dealing with the increasingly frequent and severe consequences. As noted by Deloitte[2]:

> *The Australian economy is facing $1.2 trillion in cumulative costs of natural disasters over the next 40 years even under a low emissions scenario. This shows there is the potential for large economic gains from investments to improve Australia's resilience to natural disasters. Targeted investments in both physical (such as infrastructure) and community (such as preparedness*

[2] Deloitte, Special report: Update to the economic costs of natural disasters in Australia, October 2021, page 16.

programs) resilience measures are predicted to significantly reduce the increasing costs of natural disasters. Investments in disaster resilience can be effective in lowering these costs.

Similarly, findings from the National Institute of Building Science in the United States indicates that the cost savings from investing in risk mitigation could result in savings amounting to a ratio of 1:4[3]. This also aligns with feedback from customers with 75% of our 2024-29 Customer Panel favouring a more proactive approach to managing resilience.

As illustrated in the normalised vs raw reliability results set out in Figure 1 above, divergence between network reliability and network resilience is growing. We agree with the rule change proponent that this reflects the focus of the current regulatory framework on managing outages lasting for less than 12 hours (excluding MEDs) and potentially an over-reliance on pass-throughs rather than proactive spend.

We therefore support the proposal that network resilience be expressly recognised in the expenditure factors that the AER is to have regard to in assessing capex and opex proposals, and would recommend that the AEMC consider:

- whether resilience should also be recognised in the expenditure objectives. The current focus on 'maintain' allows DNSPs to address increasing risks, but this wording may not provide sufficient focus on the importance of preparedness with growing climate risks; and
- whether the description of the expenditure factor should refer to regulatory mechanisms like revenue determinations and cost-pass throughs. We consider that it would be preferable to require a consideration of investment timing or 'proactive' and 'reactive' network resilience solutions.

Regardless of the expenditure assessment framework, we recognise it is a complex task to determine, with a sufficient degree of certainty, an efficient level of proactive resilience spend. It involves forecasting weather events, the probability of their occurrence resulting in network damage and the optimal cost and timing of any actions to address the risk. Given the risk of forecasting and/or regulatory error, we would also encourage a review of the STPIS, or a new incentive scheme, to consider the introduction of resilience related measures.

Currently, a DNSP's expenditure allowance is set (or intended to be set) at a level sufficient to maintain existing service quality. The AER notes a DNSP is then able to pursue improvements, valued by customers, via the STPIS. Such a mechanism does not exist for resilience to the extent there is not an overlapping reliability benefit earned via the STPIS.

Consequently, a network either obtains resilience funding upfront in a determination or triggers a cost pass through when the event occurs. There is no direct ongoing incentive for DNSPs to deliver a level of resilience valued by customers as the impacts of extreme events are excluded from service quality as measured by the STPIS and there remains an incentive to reduce costs via the EBSS and CESS.

In our experience, the pass-through framework has also been applied to "build back the same" rather than to "build back better" in accordance with good industry practice. Disaster recovery provides an unfortunate but opportune time to replace damaged assets with improved designs and technologies that can better withstand future events and/or provide other benefits (e.g., increasing capacity, export hosting capacity or emissions reductions). Building back better also aligns with customer views, as captured in the ECA's report of the East Gippsland community following the 2019-20 bushfires[4]:

One such source of frustration has been the tension between quickly rebuilding assets to get electricity supply back online and taking the time to make sure the rebuilding process leaves residents and business owners better prepared to withstand future crisis events…..The initial focused response to the re-establishment of critical infrastructure was welcomed. However the rebuild of the network

[3] National Institute of Building Sciences, Natural Hazard Mitigation Saves: 2017 Interim Report, December 2017, p. 1

[4] Energy Consumers Australia (prepared by The Insight Centre), The Connections that Matter – East Gippsland Longitudinal Community Listening Project, August 2021, p. 3

infrastructure was also viewed as a missed opportunity to establish a new, better and ultimately more flexible and resilient energy system.

We note that in our 2019-20 bushfires natural disaster cost pass through determination, the AER rejected a proactive herbicide program. Following the fires, we considered there was an opportunity to spray the cleared easements to prevent tree growth to reduce future bushfire risk and vegetation management costs involved in mechanical slashing and tree trimming. However, the AER did not consider this was consistent with the pass-through framework and rejected it[5], noting[6]:

We consider the costs recoverable through a pass through are limited to those that are entailed by the event – that is, the costs that are necessary to put the business in a like position to what it was in prior to the event, and do not include costs associated with adopting a new or changed approach after the event. This reflects the objective of the pass through rules, which is to "provide a degree of protection for [a network service provider] from the impact of unexpected changes in costs outside of its control". As the change in approach to vegetation management is not necessary to rectify the damage caused by the bushfires or to restore network services to pre-bushfire levels of service, we do not consider it an efficient response to the bushfires.

We note that if Endeavour Energy wishes to continue to carry out the herbicide spraying program in the current regulatory control period, it can choose to fund the activity itself or through its current revenue allowance. If the program proves effective, it may result in cost reductions for vegetation management in future regulatory periods.

Assuming this interpretation of the framework is correct, it limits the ability for DNSPs to implement new technologies or approaches in response to an event, despite aligning with good industry practice and stakeholder expectations. For example, as illustrated above, although the costs of the change could have been self-funded by Endeavour Energy in pursuing cost efficiencies that would be in turn rewarded under the EBSS (or CESS), there would be no incentive to self-fund changes that would improve network resilience (i.e., service quality) but not reduce costs. This is an important consideration when assessing proactive vs reactive resilience actions, particularly if there is a limitation to the scope of actions for which cost recovery is available.

We consider that this example highlights the importance of more expressly considering the trade-off between including expenditure in a revenue determination and relying on the pass-through framework in managing resilience. We therefore encourage the AER to review its application of the pass-through framework, welcome any clarification the AEMC consider is warranted, and support the proposal to include an additional expenditure factor addressing resilience directly.

If you would like to discuss any aspect of this submission, please contact Patrick Duffy, Manager Regulatory Transformation and Policy via email at patrick.duffy@endeavourenergy.com.au.

Yours sincerely

Emma Ringland
Head of Network Regulation & Investments

[5] In accordance with NER cl 6.6.1(j)(8) which requires the AER, in making a pass through determination, to take into account any factors it considers relevant.

[6] AER, Cost pass through Decision – Endeavour Energy's 2019 bushfire natural disaster event, February 2021, p. 11