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economics
public policy
markets
strategy

Mr Andrew Pirie

Project Leader
Australian Energy Markets Commission (AEMC)
60 Castlereagh Street Sydney NSW 2000

25 March 2025

Dear Andrew,

**Re: Feedback on Draft Rule Change – Including Distribution Network Resilience in the National Electricity Rules (NER) – Perspective of Amokabel Australia**

Marsden Jacob Associates (Marsden Jacob) wish to provide stakeholder feedback on the draft rule change made by the AEMC, in response to a rule change request from the Victorian Minister for Energy and Resources, on including distribution network resilience in the National Electricity Rules (NER).

Marsden Jacob's submission is on behalf of our client, Amokabel Australia (Amokabel), a subsidiary of international Swedish cable manufacturing group, Amo kraftkabel AB https://amokabel.com/glo .

The submission also addresses many of the questions raised in the stakeholder template feedback supplied by the AEMC during the earlier round of consultation. **See Attachment A.**

Marsden Jacob's feedback provides a perspective on the draft rule change of a supplier to distribution network service providers (DNSPs) of resilience enhancing technology. In the case of Amokabel Australia, it is the supply of new generation covered conductor (NGCC) specifically developed for Australian conditions in response to a government grant program and the Black Saturday Royal Commission in Victoria. The Royal Commission recommended the replacement of all bare wire power lines in fire prone areas with either aerial bundled cable, underground cable or other technologies to reduce risks to the community.[1]

As weather extremes become more frequent because of climate change, the risk of vegetation contacting distribution lines, and potentially igniting fires, will only increase. According to the CSIRO, technologies like NGCC reduce fire ignition risk by 98%[2] compared to bare power lines.

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[1] http://royalcommission.vic.gov.au/Commission-Reports/Final-Report/Summary.html Recommendation 27

[2] Powerline Bushfire Safety Program (PBSP). Risk Reduction Model. Data 61 and CSIRO. May 2017. P 30 Table 9

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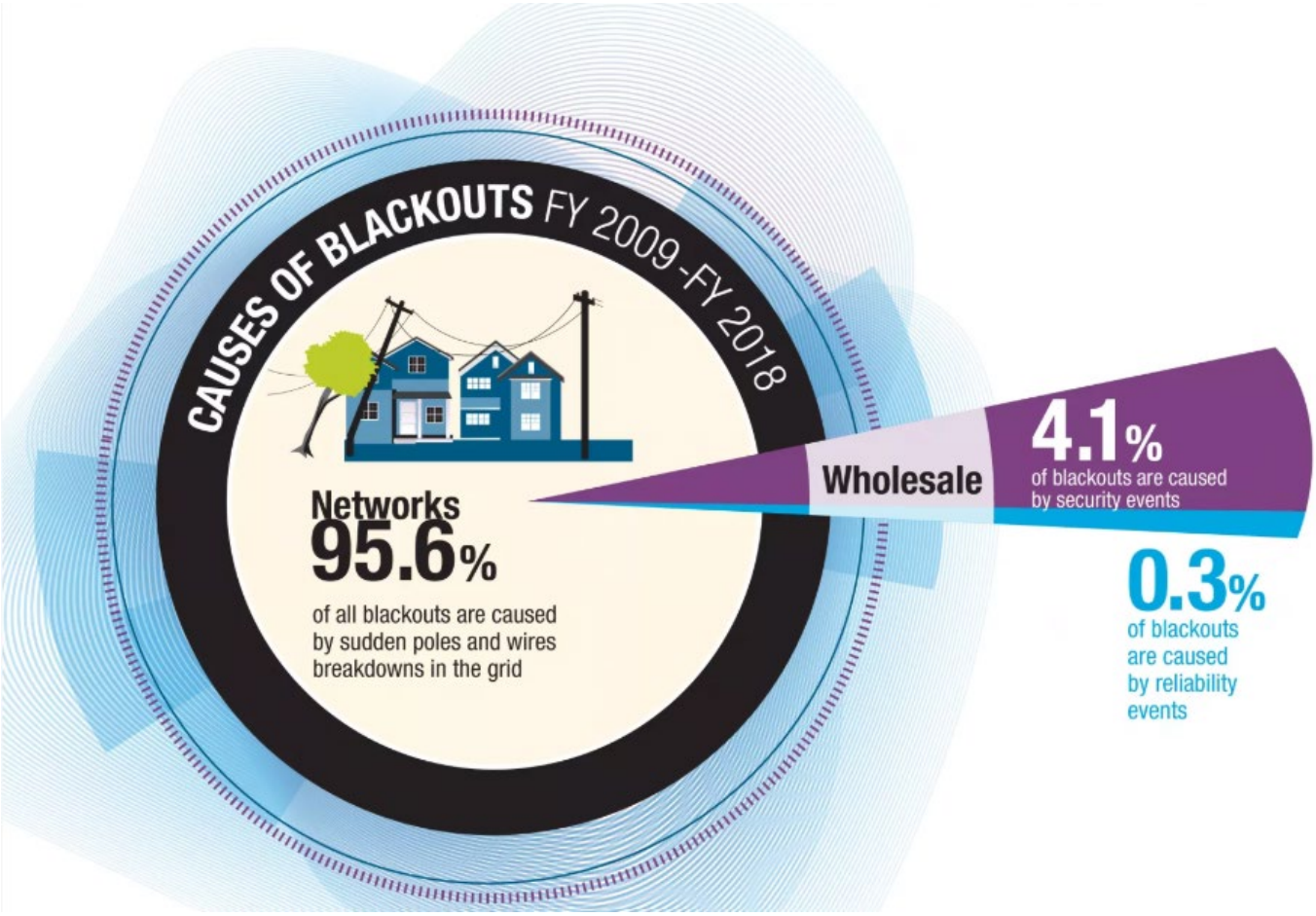
NGCC also reduces outages, including long duration outages, experienced by consumers from vegetation contact. Based on feedback to Amokabel from its Australian clients, around 66% of network outages arise from vegetation contact.

In the period 2009 -2018, the source of nearly 96% of supply outages experienced by consumers was the distribution sector. Improving distribution resilience through investment in technologies like NGCC can therefore lead to a significantly better outcome for consumers.

Figure 1 - Source of customer supply outages – Source AEMC




## Need for Ex-ante approaches

The purpose of this submission is not to be a sales pitch for Amokabel, but to make an argument for the consumer benefits of greater recognition of resilience in the NER, and specifically, the need to consider ex-ante preventative approaches to resilience that benefit the community, supported by a rigorous risk-efficiency framework regulatory approach.[3] Such an approach can help reduce ex-post costs arising from weather events and significantly reduce risks to community safety.

To date DNSP's across Victoria, NSW and Tasmania have trialled and, in some cases, installed NGCC on parts of their network. Based upon feedback from those networks, the cost of NGCC is estimated to be 15-20% higher than bare wire, depending on the location.[4]

NGCC is a fraction of the cost of under-grounding distribution lines, which was one of the solutions recommended by the Black Saturday Royal Commission to reduce community risks from distribution ignited fires. NGCC has also

[3] See for example, the Portland General Electric ISO-31000 risk framework based Risk Spend Efficiency approach to risk guided decision making in its 2023 Wildfire Mitigation Plan

[4] This is based upon feedback to Amokabel Australia from its clients across the country. There are some variations between regions.

been adopted by DNSP's in other jurisdictions subject to extreme fire risk, notably California, where the devastating impact of fires has so recently been apparent.[5] Note the comments below by Southern California Edison from its 2019 application to the California Public Utilities Commission (CPUC) for its Grid Safety and Resiliency Program (GSRP).

*"Reconductoring with Covered Conductor has the greatest overall value. A dollar spent reconductoring with covered conductor provides nearly three times as much value in wildfire risk mitigation as a dollar spent reconductoring with bare conductor, and over four times as much value in wildfire risk mitigation as a dollar spent on underground conversion"*[6]

## Cost-Benefit

If subject to a full Cost-Benefit Analysis (CBA) in a risk-efficiency framework, the 15% ex-ante premium for NGCC would, in our view, deliver clear net benefits through lower consumer outages from vegetation contact, less property damage, and significantly reduced fire risk. Additional community safety benefits arise from NGCC, as a downed covered conductor presents a much lower risk of electrocution than a bare wire.[7] Risks to farmers and construction workers from inadvertent contact with overhead lines are also mitigated. NGCC reconductoring also provides the opportunity to mitigate the failure of associated equipment (cross-arms, insulators, splicing) that can be examined/replaced at the same time.[8]

It is our view that if the NER were to more clearly allow for preventative ex-ante approaches to resilience, accepting that those approaches should be subject to a full CBA, then technologies like NGCC and other resilience enhancing technologies are more likely to be adopted for the long-term benefit of the community. An approach that is based upon only ex-post solutions is likely to see limited innovation, business as usual, higher costs and increased risks to consumers.

In short, an episodic "pass through" approach is unlikely to encourage new approaches by DNSP's to addressing the increasing challenges to the resilience of their networks posed by climate change. For suppliers of resilience enhancing technology like Amokabel, it provides less certainty for investment in Australian manufacturing of NGCC, which was specifically designed for Australian conditions and Australian DNSP's.

Should you wish to discuss our submission please phone myself on 0413 795-585 or the Managing Director of Amokabel Australia, Mr Steve Rutland on 0448 009 673.

Attachment A provides additional commentary on the questions raised in the AEMC stakeholder feedback template.

Yours sincerely,

**Cameron O'Reilly**
Associate Director, Marsden Jacob

**Stephen Rutland**
Managing Director, Amokabel Australia

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[5] https://www.sce.com/wildfire/wildfire-mitigation-efforts
[6] Application by Southern California Edison Company to the CPUC for its Grid Safety and Resilience Program (GSRP). April 23, 2019. P 43
[7] https://www.sce.com/sites/default/files/AEM/Supporting%20Documents/2023-2025/Covered%20Conductor%20Compendium.pdf; & https://www.treewire.com/
[8] See for example Table 2 Attachment 6 Effectiveness_Workstream, PacifiCorp's 2022 Wildfire Mitigation Plan, https://www.pacificorp.com/community/safety/wildfire-mitigation-plans.html

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# Including distribution network resilience in the national electricity rules

## STAKEHOLDER FEEDBACK TEMPLATE

The template below has been developed to enable stakeholders to provide their feedback on the questions posed in the consultation paper and any other issues that they would like to provide feedback on. The AEMC encourages stakeholders to use this template to assist it to consider the views expressed by stakeholders on each issue. Stakeholders should not feel obliged to answer each question, but rather address those issues of particular interest or concern. Further context for the questions can be found in the consultation paper.

## SUBMITTER DETAILS

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| **ORGANISATION:** | Amokabel Australia |
| **CONTACT NAME:** | Stephen Rutland – Managing Director |
| **EMAIL:** | Stephen.rultand@amokabel.com |
| **PHONE:** | 0448 009 673 |
| **DATE** | 25 March 2025 |

## PROJECT DETAILS

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| **NAME OF RULE CHANGE:** | Including distribution network resilience in the national electricity rules |
| **PROJECT CODE:** | ERC0400 |
| **PROPONENT:** | The Honourable Lily D'Ambrosio MP, Victorian Minister for Energy and Resources |
| **SUBMISSION DUE DATE:** | 7 November 2024 |

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## CHAPTER 2 – THE PROBLEM RAISED IN THE RULE CHANGE REQUEST

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| **1. Does the current framework for distribution network resilience create regulatory uncertainty for DNSPs and the AER around efficient expenditure for long-duration outages? Should the framework be amended to provide clarity?** | As a supplier of resilience enhancing technology for Australian distribution network service providers (DNSP), it is important that our clients have clarity around what types of expenditure will be considered to reduce long duration outages for consumers. The NER currently do not contain guidelines that distinguish network resilience from network reliability, from performance metrics and Regulatory Information Notices (RIN's) through annual planning and regulatory submissions. If the framework is clarified it will help DNSP's with their regulatory submissions and enable suppliers to ensure the solutions they bring forward are consistent with the framework. |
| **2. How material is the lack of clarity in the rules around network resilience?**<br>(a) Do you consider the issue with the NER raised by the proponent to be a substantive problem? If so, why?<br>(b) Are there any other programs or energy sector reforms that may partially or fully address the problem raised by the proponent? | Amokabel supports the premise of the rule change from the Victorian Minister aimed at providing more clarity in the NER around network resilience. We understand the rule change arose from storm driven long duration outages but any type of extreme weather, including fires, can see significant community disruption. While DNSP incidents cause the vast majority of customer supply outages and can be identified in RIN data at feeder level, most of these events are of limited scope and duration with DNSP response goals/penalties ensuring customer impact is limited. In contrast the widespread impact of weather patterns like the extreme windstorms of 2021 are a "major event" and excluded from RIN reports such that the materiality of impact on network infrastructure cannot be quantified.<br>Amokabel first came to Australia in response to the Black Saturday Royal Commission which encouraged the development of solutions to improve community safety from DNSP triggered bush fires. The Powerline Bushfire Safety Program (PBSP) of the Victorian Government which followed was a positive initiative in supporting innovation in fire mitigation and network resilience. It would be a positive development if the NER could provide more clarity in relation to network resilience solutions. |

## CHAPTER 3 - THE PROPOSED SOLUTION AND IMPLEMENTATION

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| **3. Do you agree with the proposed solution to include resilience expenditure factors in the NER?**<br>(a) Is including resilience as expenditure factors in the NER an appropriate solution? Is there a more | It would be a positive development for suppliers of all resilience solutions to provide more guidance on resilience expenditure factors.<br>As stated in our submission, capital or preventative solutions that provide a positive cost benefit should be encouraged. What may be a slightly higher ex-ante capital solution can reduce operating expenditure on measures such as vegetation and fire mitigation for instance. |

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| preferable way to incorporate distribution network resilience into the NER?<br>(b) Do you have any comments on the proposed drafting of the resilience expenditure factors? Should they be drafted in the same way for capital and operating expenditure?<br>(c) Should the resilience expenditure factors cover severe weather events and other catastrophic events that may result in long-duration outages? | The problem of network resilience is neither new nor limited to Australia. Other jurisdictions, notably pacific-west coast states of America, have engaged with this challenge for over a decade, developing risk cost-effective assessment frameworks and regulatory frameworks that are a model for resilience expenditure factors and AER guidelines.<br>We believe the factors should encourage preventative ex-ante measures that can reduce the number and length of customer outages arising from severe or catastrophic weather events. Credible testing by the CSIRO shows that new generation covered conductor (NGCC) is one solution that can reduce the instance of catastrophic fires. |
| **4. Do you agree with the proposed solution to require the AER to develop resilience guidelines?**<br>(a) Do you agree that requiring the AER to develop binding resilience guidelines will address the issue?<br>(b) What level of prescription should the NER include relating to the AER's guidelines? Should the NER include content requirements for the AER guidelines?<br>(c) Do you agree that both including resilience as capital and operating expenditure factors in the NER and an AER binding guideline are required to address the issue? | As all DNSP's must ultimately seek approval from the AER for network resilience expenditure we believe guidelines from the regulator, along with clarity in the NER, will help resilience solution providers to innovate and refine their solutions for the benefit of consumers and communities.<br>Climate change is changing the environment in which DNSP networks operate including wind, temperature, drought, precipitation and flooding that each impact different network equipment in different ways. The risk cost-effective solution to these challenges will vary by geographic, environmental and technological factors for each location in the network. Regulations need to be flexible – while those planning community resilience need to have access to clear information on how the network is planned to be resilient in their local area.<br>We think it's important to have capital and operating expenditure factors. The cost benefit of a capital solution will often lead to savings in operating expenditure, generating co-benefits for consumers. As well as having resilience benefits, NGCC can reduce the clearance requirements for distribution lines with material consequences as vegetation management is the largest operating expense in regulatory determinations, particularly for largely regional DNSPs.<br>Some level of prescription is required but there should be room for innovation and investment in technologies for the benefit of consumers. |
| **5. What are your views of the costs and benefits of the proposed solution?**<br>(a) What do you consider will be the benefits and costs of the proposed solution?<br>(b) Do you consider the proposal appropriately allocates risk between DNSPs and consumers? | Amokabel believe the benefits of clarity around network resilience will clearly outweigh the costs. With the increase in climate extremes networks are being challenged as never before. Encouraging investment that reduces the likelihood and length of network outages from extreme weather has never been more important.<br>Network resilience is essential to community resilience where so much infrastructure depends on electrical equipment, from traffic lights to supermarket refrigerators to sewage pumps – a dependence that will only grow with electrification in the energy transition. |

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| (c) Is there anything the Commission could do in designing the rule that would help to minimise the costs and maximise the benefits? | Like all network investment there should be a requirement for a positive CBA for resilience investments with the benefits to consumers in reduced outages and enhanced safety being a key driver. With the distribution sector being the source of over 96% of consumer outages, it is the part of the system where resilience investment in response to climate extremes would have the highest pay-back. But the evaluation of benefits from low-probability, high impact events is challenging – it requires a risk based frameworks including cost-effective assessment. This is not virgin territory, there are regulatory examples to learn from and guide Rule/Guideline development. |
| **6. What transitional arrangements would be required to implement the proposed rule?** | We have no view on this. We believe implementing the rule change in time for the forthcoming Victorian DNSP regulatory submissions is important. |
| **7. Are there any interactions with the VNR that should be taken into account in the NER?** | As mentioned earlier, given DNSP's are the source of 96% of consumer outages, including long duration outages, VNR is a useful tool to consider along with a CBA in assessing ex-ante network investments that reduce outages, the duration of those outages, and risks to the community from severe weather. |
| **8. Are there alternative solutions to those proposed in the rule change request?**<br>(a) Do you consider that more preferable solutions exist to address the identified issue?<br>(b) Should the rule change clarify the role of DNSPs in relation to providing resilience?<br>(c) To what extent would the VNR, alongside the AER's existing guidance note, resolve the issue raised in the rule change request? | We believe the proposed solution of clarity in the NER and guidelines from the AER is an appropriate one. The key is to ensure that ex-ante solutions that have a clear benefit to consumers are not discouraged by an attempt to keep network tariffs as low as possible in regulatory determinations. In the face of climate extremes, this would be a false economy and lead to potentially greater consumer outages and enhanced safety risks.<br>DNSP's have a range of reliability and safety obligations usually laid out in state based regulatory frameworks. The national framework should work in conjunction with the state frameworks to encourage resilience. As stated earlier, the Victorian Powerline Bushfire Safety Program (VPBS) was a positive initiative in response to an extreme event that led to significant loss of life. Innovations such as NGCC that came from this are benefitting networks and consumers outside of Victoria. |

## CHAPTER 4 – MAKING OUR DECISION

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| **9. Assessment framework:**<br>Do you agree with the proposed assessment criteria? Are there additional criteria that the Commission should consider or criteria included here that are not relevant? | Amokabel particularly supports outcomes for consumers and safety, security and reliability for consumers. We would also urge that the issue of safety for industry workers that may work near network assets also be considered. Enhanced resilience in DNSP's would not just benefit consumers but also workers who have to engage in sometimes dangerous work to repair network lines after severe weather events. We would also urge that investments which reduce the risk of severe events leading to catastrophic events such as fires be given due consideration. |

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