

28 April 2020

Air Chief Marshall Mark Binskin AC (Retd)
Chair
Royal Commission into National Natural Disaster Arrangements

Submitted online

Dear Commissioner Binskin,

Royal Commission into National Natural Disaster Arrangements

Thank you for the opportunity to provide a submission to the Royal Commission into National Natural Disaster Arrangements.

Energy Networks Australia is the national industry body representing Australia's electricity transmission and distribution and gas distribution networks. Our members provide more than 16 million electricity and gas connections to almost every home and business across Australia.

While bushfires have always been a reality in Australia and something Network Service Providers (NSPs) diligently plan and prepare for, network assets, by their very nature, are vulnerable. In addition to the enormous impact on people and property, the 2019-20 bushfires caused unprecedented damage to electricity infrastructure, with thousands of kilometres of network damaged and more than 5,000 power poles destroyed.

We recognise that there are key lessons to be learnt from the 2019-20 bushfire season from a wide range of stakeholders, and we outline our feedback below for consideration by the Commission.

Bushfire Response Coordination

During the Bushfires of 2019-20 electricity transmission and distribution NSPs worked closely with the Emergency Services. This was particularly the case when NSP field crews need to assess damage and make repairs.

Electricity assets are critical infrastructure and the provision of electricity is an essential service that greatly assists the response to bushfires (e.g. communications). Assessing and reconnecting electricity following a bushfire is critical to supporting an ongoing effective response.

Initially, NSP field crews were escorted by Emergency Services, but as the bushfire situation escalated, NSP field crews were increasingly allowed into remote and damaged areas unescorted. On a number of occasions as NSP Field Crews attempted to exit their work area, they found roads had been closed and their exit was blocked.

For future co-ordination and collaboration in recovery, it is recommended that the decision-making process as to who can give authority to enter affected areas needs to be clear and this may mean authority beyond the level of the State Fire Service. In NSW, the collaborative relationship with Energy and Utility Services Functional Area

Coordinator (EUSFAC) enabled NSW networks to be a part of the State Operation Centre, but there was no formal structure or process for this. It would be useful to develop a more formal process in each state for the future to enable co-ordination of the various entities involved in the response.

As well as coordination with emergency services and state emergency control centres, better coordination with telecommunications carriers needs to be developed during major events. Telecommunications, and mobile towers in particular, are critical infrastructure that are used by emergency services, NSPs and customers to remain in touch, aware and safe during major events. Ensuring telecommunications infrastructure has power is essential and better coordination would facilitate efficient management of readiness and recovery.

Energy Networks Australia would welcome the opportunity to work with its members, the Emergency Services and Governments to develop coordination protocols that ensure the safety of not only NSP Field Crews, but the Emergency Services they work alongside.

Stand-alone Power Systems

Electricity network businesses are acutely aware of their role in safely and responsibly managing network assets to reduce the risk of bushfires, and provide a rapid response for customers impacted by those fires.

NSPs continually inspect, prune and clear vegetation around powerlines to reduce the chance of contact. In addition, to mitigate the impact of lines contacting the ground or each other, there are a range of technical solutions that can be used:

- Conductor spacers/spreaders to prevent power lines clashing together in high winds;
- Rapid Earth Fault Current Limiters (REFCL) to reduce electrical arcing at the point a fault occurs on the network (for Victorian networks);
- Covered conductors (insulated coatings on powerlines) to reduce the danger from faults or fallen lines; and
- Fault protection relays to detect and eliminate dangerous faults on the electricity network.

However, technology now exists through Stand Alone Power Systems (SAPS) to further build network resilience. SAPS therefore have the potential to play two roles. Firstly, there are significant benefits from removing network infrastructure from higher risk areas in the form of reduction in bushfire risk and enhanced network resilience. By removing network infrastructure from bushfire prone areas there is a reduced chance that fires will be started in the first place. Off-gridding customers in those areas means that even if a fire event does occur, it is likely that fewer customers will be left without power, less network repairs will be required and the cost of responding to the natural disaster will be lower.

Secondly, SAPS are an increasingly viable solution to permanently supply power to some bushfire impacted communities given their falling costs and high levels of reliability. The cost of rebuilding the lines to reconnect these customers to the grid, as well as ongoing maintenance, vegetation management and costs to restore power

after a fault on the network are likely to be considerably higher than a SAPS solution. Moving these customers to a SAPS solution could lead to a reduction in network charges for the entire customer base.

The recent experience in the deployment of SAPS in response to the bushfires has highlighted some of the regulatory barriers to enhancing the resilience of electricity networks in remote and regional areas. SAPS are currently subject to various jurisdictional arrangements in the National Electricity Market and are not generally captured under a consistent national regulatory framework. The Australian Energy Market Commission is proposing changes to the national rules that will allow customers to be supplied using SAPS.

Energy Networks Australia is closely engaging in the review process with the objective of ensuring that the proposed regulatory arrangements are fit-for-purpose and enable an efficient rollout of distributor-led SAPS for the benefit of customers.

Insurance

An important issue of the review to be aware of is the changing market landscape around insurance relating to network infrastructure and bushfire. In recent years, both the local and global insurance markets have experienced significant loss claims activity, driven by increasing natural catastrophe events. As a result, networks are reporting that as the insurance capacity market reduces and existing insurers charge material premium increases, access to insurance coverage is becoming increasingly difficult to obtain.

It is expected with extreme climate conditions and more insurance losses, premiums will further increase into the future and the insurance capacity market will reduce as insurers continue to exit the market. These developments have the significant potential to impact the risks and costs borne by current and future electricity customers.

For electricity networks the risks and potential volatility of claims are more complex and usually of a larger scope than general insurance risks. For these reasons they are often underwritten by specialist insurers. A significant number of these insurers operate outside of Australia, with the majority in London, as there is not enough capacity to write the whole of these risks locally. Our members typically source insurance from a combination of London and Australian insurers, with some members able to achieve some capacity sourced out of markets in China.

The global insurance industry is seeing an increased number and value of catastrophe events, resulting in significant insurance claims and pay-outs. Consequently, many insurance providers are facing larger than expected financial losses. As an example, three of the top four largest insurance loss years have occurred within the past eight years, with 2017 recorded as the largest insurance loss year ever experienced, and 2018 the fourth largest loss year. This is driving substantial insurance market changes.

Specific to insurance for bushfire risk, recent major bushfires/wildfires have occurred throughout the world in North America (with increased frequency in California), France, Germany, Australia, Greece, Indonesia, Italy, Poland, and Russia. The consequences of these events include thousands of buildings destroyed, numbers of lives lost, and billions of dollars in property damage and resources spent fighting the fire.

Renewed focus on liability risks has also occurred following multiple rounds of scheduled forced outages to reduce potential further fire risks to the community affecting up to 2.7 million Californian customers of Pacific Gas and Electric (PG&E). PG&E has been in

bankruptcy protection since January due to anticipated liabilities associated with the 2018 wildfires.

With the current history of fires in multiple States every season and record high numbers of extreme heat days being experienced, even before the bushfire events of the last summer there was an increasing focus on the risks present in Australia.

With at least eight specialist insurers either pulling out of or drastically reducing capacity on bushfire risks within the last 12 months, and any new capacity offered being at much higher prices, it has become more difficult and costly to obtain the same level of cover held by the members today. Members have been notified of the likely complete withdrawal of insurance lines in future years.

Other factors impacting insurance market include population and asset growth within our members' networks, more frequent extreme heat days, lower rainfall figures experienced, and an ongoing trend of longer bushfire seasons experienced. The flow-on effects mean that the cost of network insurance can be expected to rise substantially over time.

This means there needs to be a renewed focus on ensuring efficient risk allocation for customers, the adequacy of existing regulatory treatment of this issue, and a flexibility to develop alternative ways of managing the balance of associated risks and costs in the long-term interests of our customers.

Transmission Corridors

As noted above, all electricity infrastructure is kept clear of vegetation for safety purposes, since trees have the potential to damage powerlines and pose a threat to the safe supply of bulk electricity that powers our communities. The amount of clearance is dependent on the voltage of the powerline and as a result high voltage transmission lines occupy significant "corridors" of cleared vegetation.

Presently this clearing is undertaken only to the extent required to maintain safe vegetation clearances to the transmission line. With additional clearing and fuel load reduction, these transmission corridors can act as breaks in vegetation and could perform as strategic firebreaks in the landscape as part of broader bushfire mitigation programs.

All transmission networks should be regarded as critical infrastructure with appropriate consideration in federal, state and local government planning instruments to ensure they are treated appropriately.

Back burning activities can be performed safely near transmission lines (with appropriate notification to the transmission line owner), but this can only be achieved safely within strict conditions.

In contrast, firefighting, either from the ground or from the air, cannot be performed safely near transmission lines. It should be recognised that in addition to the flame height and smoke presenting a significant arc hazard near electricity powerlines, water applied in during firefighting can pose an electrical safety risk.

Vegetation management is a significant and costly focus of operating an electricity network safely and the coordination of vegetation management around transmission corridors and distribution lines between NSPs and local jurisdictions may result in efficiencies while delivering the benefit of strategic fire breaks. Reducing full loads in

bushlands directly adjacent transmission lines would also provide community safety and resilience benefits.

In order to use transmission corridors as strategic fire breaks, it may be necessary to make changes to legislation to recognise both the critical nature of transmission infrastructure and the potential for broader community benefit. Funding through the regulatory regime or other means to transform transmission corridors to strategic fire breaks and maintain these is also required.

Natural Hazards and Electricity Networks

Australia's electricity network businesses worked with the Bushfire & Natural Hazard Cooperative Research Centre to develop research priorities for electricity networks, publishing a report (**attached**) in May 2019.

Four high level priorities for research related to natural hazard resilience for electricity networks were identified:

- Understanding the fundamental vulnerabilities of Australia's electricity networks and strategies to minimise the risks posed by those vulnerabilities;
- New approaches to stakeholder engagement to support better planning and implementation of resilient networks and distributed generation capability;
- New concepts in operation and regulation of electricity networks (including frameworks); and
- Harnessing current and new data to enhance forecasting and modelling of electricity networks to better manage the risk and impacts associated with natural hazards.

Since the publication of the Research Priorities Australia's report, electricity networks have been developing a common methodology to model and manage the economic impacts of severe bushfires. This work is nearing completion.

The research priorities represent the consensus view of industry experts and are based on extensive consultation and discussion. By synthesising this information, it will be easier for researchers, policy makers and practitioners at all levels to plan and prioritise their work, to enable a nationally coordinated research capacity to address the major issues of our day and to support the uptake of that research into practice.

If you wish to discuss any aspect of this submission, please contact Dr Jill Caine General Manager Networks at jcaine@energynetworks.com.au.

Yours sincerely,



Andrew Dillon
Chief Executive Officer