

Telecommunications Disaster Resilience

Government needs to increase the resilience of Australia's telecommunication networks, to help prevent, mitigate and manage outages during emergencies.

Telecommunications services are vital during emergencies to keep communities safe, connected and informed. They are also crucial in coordinating response efforts to get timely information to emergency personnel during natural disasters. However, no communications network is 100 per cent resilient to natural disasters.

It appears that both State & Federal levels of Government have not learnt from the mistakes of the past, namely post Cyclone Seroja which hit in April of 2021. Mobile Telecommunications were out for over a week in built up areas and over a fortnight in the rural areas. Compounding the problem was the following summer of 2021/22, constant power outages caused ongoing mobile outages with generator back up option failing on several occasions (tripping out).

Unfortunately, power supply in the Midwest is substandard and in particular the Shire of Chapman Valley relies on "one line in -one line out" configuration so any power interruption in between will affect all power supply to the east.

Solution: The Government recently provided a \$20 million Innovation Round which will fund innovative telecommunications technologies to improve the resiliency, redundancy and availability of telecommunications during and/or following a natural disaster. This need to be expanded to on a larger scale, to the point where if not all regional towers are fitted with adequate resilience/redundancy then at least a minimum of strategic towers within the areas of poor power supply.

Put simply, don't build new towers, put the Black Spot funding towards fixing the ones that you already have?

Reliability of Connections remains an issue in the regional area i.e.

- i. Often no 'back-up' or alternative options for consumers during outages and downtime.
- ii. Dropouts and outages - both with mobile broadband and satellite services.
- iii. Power outages and no power backup, leaving connections offline for long periods.
- iv. Landline services declining over time or being impacted by weather, lack of available parts for repairs, lack of available technicians.
- v. Delayed repairs of voice and telecommunication services due to remote location of end-user.

To illustrate the reliability issues threat areas such as Chapman Valley face, as recently as Thursday February 22, 2024 a number of pole top fires occurred from the outskirts of Geraldton to the Nanson area (20km from Geraldton). This caused power outages in the whole Chapman valley area as well as neighbouring Northampton and subsequent mobile tower outages as there was no resilience built into the tower infrastructure.

This made communication extremely difficult for emergency services as they were dealing with 12 pole top fire spread over a 20km stretch. The CEO contacted [REDACTED] in WA (7.30am) which advised that crews were made aware and generators were being deployed. A follow up was made at 12.30pm as the tower was operational and advise was relayed that 19 towers were out and priority was given to isolated towers which meant that Telstra did not have sufficient resiliency for its network. With powerline over the road, and no traffic control on site (only emergency services personnel) the CEO questioned whether this was not an emergency with still no action. The Tower was not operational until Wednesday (28th February) the next week.

Clearly, Telstra has not learnt from previous disaster events with the network no better than prior the cyclone Seroja.

Multiple use towers

Mobile Towers currently allocated to Telstra, without the ability for other telecommunication service providers to have access to is not practical, particularly as these towers were funded from public revenue. There needs to be an easing of access to the towers by other service providers at affordable rates to encourage competition for telecommunication services in regional areas.

Community Service Obligation

Australian & State Government Community Service Obligation (CSO) to those in the regional and remote areas appears to have been given less significance than it should be. Most telecommunication decisions appear to Metro or Regional Centre Centric.

Solution: Without adequate built in resilience, power supply and mobile outages go hand in hand. The community Service Obligation needs to take into consideration the issues with regional power supply and base infrastructure development/upgrades with this in mind.

Mobile Footprints

The issue of the footprint when tower is upgraded from 3G to 4G to 5G reportedly lessens, reducing the number of consumers able to access a specific tower. Will this result in additional towers needing to be installed to at least maintain the existing 3G/4G footprint?

Innovation with digital rollout

Measure past programs of digital investment to explore pros and cons. Digital Farm Grants - learn from what has worked, better understand the potential of rural digital networks and what is possible with future investment. Also further explore a co-investment model, e.g. Chapman Valley digital farms project with investment from State Govt, Local Govt, service provider, local businesses and other local organisations.

Boosting temporary infrastructure capabilities

Recently, the Australian Government has co-invested with the telecommunications industry to purchase portable communications facilities such as cells on wheels (COWs), mobile exchanges on wheels (MEOWs) and NBN Road Muster trucks, which can be positioned in disaster affected areas to allow communications services to be restored quickly.

Solution: This should be expanded to increase capacity for use at local disasters (including cyclones, flood, fire etc). It should also have the capacity to be used at 'non-emergency' regional events such as field days, regional shows which often have limited capacity and excess usage (eftpos etc)

Tourism Industry Growth

Growing tourism industry and current Telstra network inhibits large events due to network inadequacies, as well as basic business operations due to black spots or low bandwidth. Investing in portable communications facilities such as cells on wheels (COWs), mobile exchanges on wheels (MEOWs) and NBN Road Muster trucks

Sale of NodeOne to Swoop

Under the Digital Farms Program, NodeOne created a 30-tower network over nine shires, which gave reliable and fast network coverage over nearly 20,000 square kilometres. As a nimble and innovative operator, NodeOne used an integrated approach and our expert knowledge to create and implement a unique digital farm solution that out-performs the National Broadband Network (NBN) Satellite Service offering. Its recent sale to Swoop has coincided with network issues and numerous complaints from users on the White Peak