

**Joint Standing Committee on the
National Broadband Network (NBN)**

**Submission by the
Northern Territory Government**

March 2017

Summary

The National Broadband Network (NBN), when complete, will undoubtedly transform the Australian economy, open new capabilities and provide the capacity to deliver new services. Nowhere would the effect of this be felt more, nor will the benefits be greater, than in the remote communities of Australia, particularly in the Northern Territory.

Provision of a superior broadband connection in remote communities will be a significant factor towards closing the gap of Indigenous disadvantage. It would enable improved well-being for individuals and families living and working in some of the most remote locations in Australia by improving access to essential health and education facilities and other online services provided by the Northern Territory Government which is increasingly delivering services digitally.

Introduction

In the Northern Territory Government's submission to the 2015 Regional Telecommunications Independent Review, it was highlighted that the lack of basic telecommunications infrastructure is the major issue faced by many remote communities in the Northern Territory. These communities are mostly Indigenous communities but also include many pastoral and tourism enterprises.

The Northern Territory Government recognises that reliable and affordable telecommunications services provide significant social and economic benefits. This is a basic tenet of the United Nations resolution on *The promotion, protection and enjoyment of human rights on the Internet*, which states on page 2:

“...the spread of information and communications technology and global interconnectedness has great potential to accelerate human progress, to bridge the digital divide and to develop knowledge societies”.¹

Telecommunications services have become increasingly critical and underpin the delivery of essential health and education services, social interaction and business and economic development. It is therefore essential that access to the internet is available equitably to all Australians and maintained to a level that creates no disadvantage regardless of location.

The Northern Territory Government supports the Australian Government's Mobile Black Spot Program which is currently being rolled out throughout Australia to improve mobile phone coverage in regional and remote areas of the country. In addition, in 2015 the Northern Territory Government entered into another co-investment agreement with Telstra under a three-year, \$30 million program to provide mobile phone and fixed line broadband coverage to many remote communities in the Northern Territory. This follows three prior successful jointly-funded remote telecommunications infrastructure programs over the past eight years.

National Broadband Network in the Northern Territory

Satellite communications

The Australian Government's current position is that areas outside the major cities and towns, including all remote communities in the Northern Territory will be connected to the NBN via the technically inferior satellite service rather than fixed broadband infrastructure. This position is to be applied even where the communities have existing, state of the art terrestrial telecommunications connections.

The well-known idiosyncratic nature of satellite technology makes it difficult, costly or impossible to ensure delivery of some online applications. The time delays (latency) in satellite communications exclude some applications from operating successfully and render voice communication impractical. The nature of extreme weather conditions common within the Northern Territory, especially in the coastal regions, makes satellite unreliable due to rain fade and loss of signal. In a natural disaster satellite communications are likely to fail precisely at the time a community needs them the most.

¹ *Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development*, 27 June 2016, Human Rights Council of the United Nations General Assembly, https://www.article19.org/data/files/Internet_Statement_Adopted.pdf

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Furthermore, the Fair Use Policy² enforced by NBN Co on users of the satellite service unfairly discriminates against customers in remote areas who can only access the internet via this technology. Similar restrictions are not placed on the majority of Australians in urban locations who access the internet via fixed line services on the NBN.

Education

In March 2015, the Distance Education and Broadband Working Group was established to provide guidance and advice to NBN Co in establishing the best technical design and solution to meet the education needs of Distance Learning Students to replace the Northern Territory Government's STARS (Satellite To All Remote Sites) education network. The Northern Territory Government Department of Education will fully evaluate Sky Muster service performance and will be working to establish a centralised model for education services for distance education sites over the NBN.

Health

The *Remote Area Nurse Safety* report published by the Northern Territory Government Department of Health in 2016, recommended provision of internet access into Remote Area Nurse (RAN) accommodation to improve nurse safety when providing after hours on-call services in remote NT communities. An options paper prepared by Northern Territory Government Department of Health recommended installation of NBN satellite services into 329 RAN houses across 49 remote Northern Territory communities and regional towns. This is a major Northern Territory Government initiative.

To date, NBN satellite services have been installed in 24 RAN houses in remote communities. The insufficient availability of NBN Co contractors for installation of satellite equipment in remote communities will impede the efficient and timely rollout of services. Northern Territory Government Department of Health's objective to install 329 satellite services across 49 remote communities by 30 September 2017 may be unachievable if NBN Co contractors cannot meet demand.

In delivering clinical care, the Northern Territory Government Department of Health advises the performance of NBN satellite relative to terrestrial services is a potential impediment to adoption of NBN satellite services in remote communities. User demand is expected to reduce as latency of 630 milliseconds impacts the ability to utilise basic consumer grade medical devices for monitoring of medical conditions, e.g. heart monitoring, blood sugar monitoring or duress alarms. The residential grade NBN satellite service is unlikely to be considered suitable for supporting operational core clinical systems and TeleHealth services.

Community development

Organisations representing many remote communities in the Northern Territory have existing arrangements with Telstra, which is not an NBN retail service provider, for the provision of current satellite telecommunications service. However, as with the Northern Territory Government Department of Health and at a higher cost, some organisations have installed NBN satellite services in staff housing for individual security and well-being and to aid retention of staff in very remote areas.

Regional councils in the Northern Territory have reported that NBN Co's level of engagement has been poor. The NBN Local Government Charter highlights a very low level of engagement for the Sky Muster footprint in regional areas in 2015-16 and 2016-17. The level of engagement in the charter reflects an approach to distribute newsletters to keep councils informed and no direct stakeholder communications or meetings.

This low level of engagement with regional councils has likely contributed to a poor understanding of the benefits of the service. The majority of regional councils have advised they are not utilising the NBN Co Sky Muster service as it is cost prohibitive in comparison to metropolitan areas, not available through Telstra and does not provide business grade capacity.

Primary industries

A number of case studies from remote primary producers in the Northern Territory highlight the challenges faced by this industry:

- a) In 2016, a rapidly growing fish farm 60 kilometres from Darwin began investigating broadband access for their IT systems supporting their burgeoning business. Despite having fibre to their

² *Fair Use Policy*, nbn co, 1.3 Unfair Use regarding the NBN Co Satellite Network, p.4
http://www.nbnco.com.au/content/dam/nbnco2/documents/sfaa-wba2-product-catalogue-fair-use-policy_20160407.pdf

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driveway, an initial quotation from Telstra of approximately \$300 000 for a fibre installation to their office dampened the business's enthusiasm and raised their frustration about running a business in the Northern Territory in the 21st Century. Even more frustrating was the lack of business account availability for the NBN satellite service and a lack of response from any Retail Service Providers generally to their enquiries. The result is a multi-million dollar and rapidly expanding business running their internet business on a 3G cellular connection with all of the associated bandwidth, expense and data download problems that occur ongoing.

- b) A large pastoral property approximately 160 kilometres north of Alice Springs only has access to satellite broadband because of its location. The property relies on broadband for numerous activities including sales, accounting, employment of regular and itinerant workers, accommodation enquiries and tourism venture bookings.

According to the managers, satellite broadband suffers from reliability issues three to four days a week ranging from partial to complete outages. A recent change in Retail Service Provider (RSP) has done little to alleviate these issues indicating that the satellite infrastructure is the underlying cause of the outages.

Of interest is that the property owners are able to directly compare the NBN Sky Muster service with that provided by School of the Air over the Northern Territory Government's STARS (Satellite To All Remote Sites) education network. The owners advise that the STARS service is much more reliable and faster.

A number of high level meetings have been held between key Northern Territory primary industry associations and the Australian Government to no avail. After a meeting between various National and State primary industry bodies and associations late last year, it seems that NBN Co executive and the Australian Government were not aware of solutions to the broadband issues in the bush and the sheer scale of the challenge.

At the National Farmers' Federation Annual Conference in 2016, farmers in the more populated states raised concerns about the NBN satellite solution, even though they can connect to a more reliable broadband service by other means, such as mobile phone or fibre via a variety of RSPs. Remote NT farmers do not have these options and are stranded.

NBN Co does not deal with end users directly and relies on RSPs to consult with business and residential customers. The result of this distance from the consumer is continual finger-pointing by all concerned during outages or when complaints arise from installation issues. The feeling is that the RSPs and NBN Co do not realise the importance of the service to primary producers with no alternative access to communications technology. Remote customers, in particular, are left feeling very isolated and frustrated.

Northern Territory Government solution

An extension of the fixed wireless network will contribute to the Australian Government's broader efforts to optimise the NBN Co satellite service for end-users and reduce demand on the satellite network. The Australian Government has agreed with Recommendation 3 of the *Regional Telecommunications Review 2015*, which states NBN Co, where practicable, extend boundaries of its fixed wireless footprint as a substitute for satellite to give the best possible outcome for regional users.

There is no evidence of the application of this agreed recommendation in the Northern Territory. Extension of the fixed wireless service would have the added benefit of faster and more reliable access to the internet, be free of the download limitations of the Fair Use Policy of NBN Co and put less pressure on the satellite service for remaining users.

In November 2016, the Northern Territory Government asked the Australian Government to approach NBN Co to change its service delivery model for 34 remote Northern Territory communities to a fixed wireless solution utilising existing fibre technology, to provide residents with a superior broadband service than the proposed satellite solution.

In a reply dated 19 December 2016, the Minister for Regional Communications, Senator the Hon Fiona Nash, stated that NBN Co is building the National Broadband Network at arm's length from the Australian Government which is not involved in the day-to-day technology selection and network design decisions as these are operational matters for the company.

The Northern Territory Government maintains that, given the Australian Government's stated position on the reuse of existing telecommunications infrastructure, the use of satellite as the network platform for broadband delivery where existing infrastructure is available must be avoided in order to provide a suitable solution for residents in remote areas of the Northern Territory.

The Northern Territory Government urges the Australian Government and NBN Co to work collaboratively with the Northern Territory Government to find an equitable solution that will provide more reliable telecommunications services for Territorians living in remote communities. This will allow individuals to participate in the digital economy to improve their well-being, health, education, lifestyle and assist remote businesses to grow.

Summary of Northern Territory Government's position

1. The Northern Territory Government will continue to strongly advocate for families and businesses living and working in remote areas of the NT to receive the best telecommunications infrastructure available.
2. As accepted by the Australian Government, better use of existing telecommunications service infrastructure needs to be a part of the solution to broadband connectivity in remote areas of the Northern Territory. This includes working with NBN Co to change its service delivery model for 34 remote Northern Territory communities from satellite to a fixed wireless solution utilising existing fibre technology and infrastructure.
3. The reliability of the satellite solution needs to be addressed by NBN Co, including:
 - a. poor performance – the climatic disadvantages with the NBN satellite solution, including network failure and frequent outages due to extreme weather conditions (heavy cloud cover, rain and heat);
 - b. priority for isolated areas – residents and businesses in remote parts of the Northern Territory, particularly those without choice of service offering, should be given priority to both access and support over and ahead of those residing in more populated areas of the country with access to far greater mobile coverage and choice of broadband provider;
 - c. engagement – a planned approach to solving the challenges of NBN connectivity in remote Northern Territory areas is vital and includes co-operation between the Australian Government, NBN Co and the Northern Territory Government
4. Additional broadband capacity needs to be addressed. It is unclear whether further satellites are planned to be launched by NBN Co to meet apparent demand. There are other technologies available for broadband connectivity, including low orbit satellites, and these technologies need to be investigated by NBN Co.
5. End user support needs to be improved, especially in very remote areas. Post-sale support received by farmers and remote businesses must be better aligned with needs. Many remote users have limited IT knowledge and this needs to be reflected in the standard of service.
6. Engagement with remote residents and businesses must improve.
7. NBN Co must work with the Northern Territory Government and the Australian Government to find the most appropriate solution for remote residents and businesses and not operate in isolation.