

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

Re: NBN's mandated rollout in relation to Norfolk Island

Submission by Benjamin Howard

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Submission to the Joint Standing Committee on the NBN, re: NBN's mandate in relation to Norfolk Island

Background

Norfolk Island is an Australian external territory located 1,400 km east of the Australian mainland and is home to approx. 2,000. Having a small land mass of only 35 sq km, Norfolk Island's only industry is tourism with approx. 27,000 visitors annually. Many who visit are attracted by its abundant natural beauty and unique history and culture. The Kingston and Arthurs Vale Historic Area (KAVHA) has been formally recognised as both an Australian National Heritage and UNESCO World Heritage site.

From the 1st July 2016 and after closing the island's legislative assembly, the Australian Government has taken over the direct administration of Norfolk Island on the basis that they can do it better than the island community. Norfolk Island is now a part of the electorate of Canberra. Many of the Norfolk Island people are reluctant participants in becoming more closely administered by Australia and therefore it is essential that they experience the promised benefits, including the promised upgrades to telecommunications.

Ben Howard holds a Communications Degree from the University of Canberra, and is inspired by information technology's power to promote global economic and educational equality. Ben has had a close relationship with Norfolk Island for over 40 years, his grandparents having relocated there in the 1970's. In July 2016, Ben started investigating what was being done about the rare opportunity to connect to one of the optic-fibre cables that are presently being run past Norfolk Island. Ben found that the Island's priorities to connect to a cable had been dropped under new governance arrangements, and is concerned that Norfolk's communications planning is endangered as a consequence of the governance changes, particularly by the mandated NBN rollout.

Summary

We are entering a time where access to quality telecommunications technology is mandatory for participation in the global economy, and nowhere will the impact of this be more profound than places in extreme isolation such as Norfolk Island.

In the 2016 "NBN Co Statement of Expectations", NBN is mandated by the Australian Government simply to provide a minimum level of broadband access to every residential and business premises as quickly and cheaply as possible. In delivering broadband only, the mandate does not require NBN to consider a region's broader communications needs. In consequence, NBN has assigned the Sky Muster satellite service as its answer for Norfolk Island, despite the technology's inability to meet all the needs of the territory.

Consideration of the suitability of Sky Muster for Norfolk Island finds that:

- Norfolk Island has the largest number of premises for any single location in all of Australia to be serviced exclusively by Sky Muster;
- subsidised NBN competition will endanger Norfolk Island's fixed-line and mobile services;
- various local, state and federal government bodies are unable to use Sky Muster and must therefore maintain their own costly and separate satellite arrangements;
- Norfolk Island has an island-wide FTTN network, an impressive cable landing station, and fixed-line coverage to 100% of premises, that may all go to waste;
- there are better ways to service Norfolk Island than a dish on every roof. Building upon existing infrastructure would achieve far superior results at lower overall cost.

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Will the NBN rollout on Norfolk Island bridge the digital divide?

The NBN corporate plan explains its purpose is to “connect Australia and bridge the digital divide”, but Sky Muster is unlikely to help much to achieve this aim on Norfolk Island. In their singular commitment to deliver the minimum mandated service, NBN has seemingly lost sight of its intended purpose.

Sky Muster is not a solution to the actual communications problems that need attention on Norfolk Island. Norfolk Island is already serviced by fixed-line DSL offered to 100% of premises. Sky Muster has a faster download speed in theory, but suffers from higher connection delay (latency) and does not offer improved monthly limits or monthly pricing for end users.

Good communications technology is especially critical in extremely isolated places, because there are limited alternatives. In the middle of the Pacific Ocean, Norfolk Island does not have access to a regional centre for better employment or education opportunities. Yet with 1,385 premises, Norfolk Island has the largest number of premises of any town/suburb to be serviced exclusively by Sky Muster.¹

With only the poorest NBN offering, Norfolk Island is set to become a study in what happens when a community is stranded on the wrong side of the digital divide.

Parallels with Queenstown, TAS

Queenstown in remote western Tasmania with 1,209 premises was previously thought to be the largest town in Australia targeted for service by Sky Muster. During the March 2016 hearing of the Select Committee on the NBN, Senators described Queenstown as having been ‘dudged’, with Senator Urquhart describing the decision to the Senate as “nothing short of economic vandalism”.

Recognising the importance of good communications to their remote region, representatives for Queenstown (including the Member for Braddon, the Mayor of Queenstown, and Senator Urquhart) have since secured a different NBN technology mix that ensures Queenstown will not be left behind.

Will the rollout of Sky Muster place Norfolk Island’s existing services at risk?

Norfolk Island’s existing communications services include a mobile phone network and a quality fixed-line DSL internet and voice service offered to 100% of premises on the island. Services are provided by Norfolk Telecom - a Local Government Enterprise owned by the Norfolk Island Regional Council (NIRC).

Through the provision of these vital services Norfolk Telecom has historically been an important source of local revenue, however the sudden availability of “free” (NBN subsidised) Sky Muster installations to everyone on the island is eroding Norfolk Telecom’s customer base.

Sky Muster is not a replacement for all the vital communications services it is displacing and its introduction without a plan for the other services may create a situation where the Australian Government will be required to provide repeated bailouts to avoid the loss of those services.

Norfolk Telecom has substantial contractual commitments to satellite providers mainly for the provision of the DSL internet service. In a November 2016 council resolution, the NIRC acknowledged that “the financial viability of Telecom is in serious doubt. Losses from internet operations more than outweigh profits from mobile and landline operations.”

¹ finder.com.au : “NBN: Who gets the most Sky Muster satellite coverage?”

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Parallels with Christmas Island

Sky Muster is displacing existing services in the Australian external territory of Christmas Island, where “free” installations are being rolled out in competition with existing services.

1st March 2017: Christmas Island’s ISP closes due to insolvency and cites NBN’s “anti-competitive” introduction.² A spokesperson for the ISP told CommsDay: *“For over a year at every opportunity the Commonwealth was told that there was a 100% chance of failure of the local ISP once we started to see a taxpayer subsidised churn to NBN.”*³

10th March 2017: Australian taxpayers are forced to foot a costly bill for the re-establishment of services on Christmas Island.

Is Sky Muster an answer to Norfolk Island’s telecommunications needs?

Island communities in extreme isolation face infrastructure requirements usually associated with larger populations, including an international airport, port facilities, school, hospital, admin buildings, banks, Border Force, power generation, and communications networks.

Sky Muster is intended to service only individual premises (spread out geographically over many square kilometres) and not intended to meet these broader infrastructure needs. This means that separate and costly arrangements must be maintained wherever Sky Muster is not capable of delivering the required level of service.

The NSW Government has confirmed they are implementing a link to the NSW Education Department via dedicated satellite connection for the Norfolk Island Central School (290 students from K-12). It is also understood that the Admin offices, Border Force, and Federal Police will each need to maintain separate satellite arrangements.

Norfolk Island’s Mobile network

The DIRD commissioned “Norfolk Island Mobile Network Review” warned in 2014 that an urgent upgrade to Norfolk Island’s mobile network is required to avoid a “major loss of service”.⁴

A modern generation mobile network will demand significant amounts of data capacity, that Sky Muster is not designed to provide. Thus a separate satellite arrangement will again be required to keep mobile services operational.

- Why introduce Sky Muster when the future of the mobile network is unknown?
- Who will upgrade the mobile network if NBN has forced Norfolk Telecom out of business?
- Will Australian taxpayers be forced to bear the cost?

² perthnow.com.au - “Christmas Island internet services cut over NBN rollout”

³ See Attachment01 & 02 - Communications Day articles about NBN competition on Christmas Island

⁴ [GQI Consulting for Department of Infrastructure and Regional Development - Norfolk Island Mobile Network Review](#)

Can't NBN use Norfolk Island's existing infrastructure?

Norfolk Island has an extensive underground fibre network (FTTN) that was funded by the Australian Government as part of the Networking the Nation (NTN) program, a precursor to the NBN, at a cost of \$774K in 2003.⁵ Fibre extends throughout the island with direct links to the hospital, mobile base stations, cable landing station, radio station, telecom exchange, council chambers, admin buildings, school and airport.⁶ In addition, 100% of premises are connected to the island's copper fixed-line.

That the NBN rollout could strand this valuable modern infrastructure and ignore the significant cost paid for it by taxpayers highlights a major failing in the way the NBN has been commissioned to conduct their task.

Of NBN's Multi Technology Mix (MTM), Sky Muster is the option of last resort, reserved for use when other means of service are not feasible. It is described by NBN for use "where premises are spread out geographically over many square kilometres".⁷ Yet with 1,385 premises within 35 sq km, Norfolk Island has an average of 40 premises per sq km.

Norfolk Island's building density is more appropriately serviced by a centralised local network - a central receiver dish or an optic-fibre submarine cable - rather than installing Sky Muster rooftop dishes on every single premises.

It appears that NBN did not properly evaluate Norfolk Island's existing infrastructure before assigning Sky Muster as their answer, and has not considered the full range of viable technology options. NBN's inflexible set of MTM technologies and their deadline is delivering a "quick fix" and is not thinking about the bigger picture.

Technologies do exist to utilize the existing infrastructure and provide superior service in a more profitable manner over the medium term and with significantly better future options

What is the most effective bridge that could be built to Norfolk Island?

Building on Norfolk Island's existing infrastructure to connect optic-fibre submarine cable would enable all communications services on the island to be provided under a single framework, meeting the needs of all current and future residents, businesses, visitors and service providers and allow future upgrade paths.

The 25+ year life-expectancy of a cable would see the island through the recovery of its economy and the education of at least 1000 school students. Opportunities for Australians on Norfolk Island would be brought into line with those of mainland Australia, and also with other Pacific islands such as Fiji, Tonga, and Samoa who have all secured connections to optic-fibre cables. DFAT's contribution of US\$1.5M toward Samoa's connection shows the Australian Government understands how effective fibre connections are for islands.

Being a single land mass with an existing cable landing station and an existing FTTN network, Norfolk Island is perfectly positioned for a connection to a cable. If this was to happen then NBN would not need to own the cable but could lease capacity from the cable supplier, like it does to service Tasmania and elsewhere.

⁵ [Department of Communication, Information Technology and the Arts Annual Report 2002-03](#)

⁶ See Attachment03 - Norfolk Island Fibre Backbone

⁷ nbco.com.au - The nbn™ Multi Technology Mix

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Conclusion

In carrying out their mandate to deliver a broadband service to Norfolk Island as cheaply and quickly as possible, the NBN will strand valuable infrastructure and displace existing services that it will not replace. By endangering the continuation of vital services the NBN rollout will incur additional costs to the Australian Government while holding back the Norfolk Island community.

Recommendations

1. The Australian Government must re-assess the mandate they have given to the NBN in regard to Norfolk Island to ensure that it will be achieving the intention of bridging the digital divide.
2. NBN must engage proactively with the Norfolk Island Regional Council and Australian Government to ensure the inclusion of the island's existing telecommunications infrastructure in the broadband solution for the island.
3. NBN must commence a re-evaluation of Norfolk Island's existing infrastructure and change its technology choice from Sky Muster to an option that will provide service through existing infrastructure.
 - a. The evaluation must include an actual "on the ground" examination by the NBN of all the island's ICT infrastructure in order to identify the technology options for providing broadband through the existing infrastructure, e.g:
 - i. connecting the FTTN via a central receiver dish or an optic-fibre submarine cable.
 - ii. using the existing copper, or fixed wireless to reach the premises.
4. Norfolk Island's new representatives (the Member for Canberra and ACT Senators) must familiarise themselves with the island's ICT infrastructure especially in respect to the connectivity needs of a modern tourism and hospitality economy and ensure their constituency is not left holding the title of most populated single location to be 'dudged' by the NBN rollout.
5. The island's new representatives and Norfolk Island Regional Council must advocate for residents of the island and work in co-operation with the NBN and the Australian Government to secure the best available future for communications on Norfolk Island.

References

finder.com.au - "NBN: Who gets the most Sky Muster satellite coverage?"

<https://www.finder.com.au/nbn-who-gets-the-most-sky-muster-satellite-coverage>

perthnow.com.au - "Christmas Island internet services cut over NBN rollout"

<http://www.perthnow.com.au/news/western-australia/christmas-island-internet-services-cut-over-nbn-rollout/news-story/211225b92071a21930db951cbdd9f0c7>

GQI Consulting for Department of Infrastructure and Regional Development - Norfolk Island Mobile Network Review

http://regional.gov.au/territories/publications/files/GQI_Norfolk_Island_Mobile_Network_Review_2015.pdf

Department of Communication, Information Technology and the Arts Annual Report 2002-03

http://webarchive.nla.gov.au/gov/20050718012311/http://www.dcita.gov.au/home/department/departamental_annual_reports_-_index_page/2002-2003_annual_report

nbnco.com.au - The nbn™ Multi Technology Mix

<http://www.nbnco.com.au/learn-about-the-nbn/network-technology.html>