FOI 23-1718 - Cover note

Documents – *"…the most recent briefings an attachments, Senate Estimates briefings and attachments and reports, relating to NBN that aren't on the same topic. By this, I mean if there are several briefings on NBN with the same subject matter that are just updated versions of a previous briefing, that you only provide the most recent on that subject matter. Please limit searches to just the Office of the Secretary/Acting Secretary."*

Date request received: 23 October 2017

NOTE: In reading these documents, please be aware that the subject documents which follow:

(a) may contain information which has changed since the date they were prepared by the Department;

(b) neither represent nor otherwise express the views of nbn; and

(c) relate to services which were offered (or were proposed to be offered) at a given point in time, by nbn in its capacity as a wholesaler, and accordingly ought not to be interpreted as indicative of services offered (or able to be offered), on a retail basis, to end users, whether at the relevant point in time, or in the future.

NBN PROGRESS - OVERALL

LEAD/SUPPORT: Nadine Williams/Andrew Madsen

KEY STATEMENTS:

The National Broadband Network (the network) rollout is on schedule, with over 6.4 million premises in ready for service areas and over 2.9 million premises with an active NBN Co Ltd (nbn) service as at 28 September 2017.

nbn's revenue continues to grow rapidly, reflecting growth in the number of consumers with active services.

Premises with an active network service will also increase rapidly in the coming year with weekly activations currently above 40,000 premises.

KEY ISSUES

Rollout progress

- The company released its latest Corporate Plan on 31 August 2017, once again confirming that the network is on track for completion by 2020.

- On average, around 40,000 consumers are connecting to the Network every week. Three-quarters of Australian homes and businesses will be able to access the Network by mid-2018.

- As at 28 September 2017, over 6.4 million premises were in ready for service areas. The company is on track to meet its rollout target of 8.7 million premises in ready for service areas by 30 June 2018.

- The rollout is two-thirds complete in regional Australia.

- By June 2017, around 90 per cent of Australian homes and businesses were either in design, had construction underway or were already able to order a National Broadband Network service.

Financial progress [Note: nbn's Annual Report was tabled on 21 September 2017]

- nbn generated total revenue of $1,001 million in 2016-17.

- This is an increase of $580 million compared to revenue of $421 million in 2015-16.

- The Average Revenue Per User (ARPU) remains at $43 per month with nbn continuing to work with broadband retailers to implement dimension-based discount pricing arrangements (see SB17-000170 on NBN – affordability, pricing and take-up).

- nbn's life to date capital expenditure was $19.4 billion for the 2016-17 financial year. This is a 43 per cent increase (5.8 billion) compared to the 2015-16 financial year.

- Operating expenditure (excluding subscriber costs) was $1.8 billion for the 2016-17 financial year. Operating expenditure increased by 1.3 times from 2015-16. This is due to the increased number of services being activated and made ready for service.

S 22

Changes to definition of 'Ready for Service' and 'Ready to Connect'

- Two most common metrics used by nbn are premises in 'Ready for Service' (RFS) areas and premises 'Activated'.
- These metrics are an indication of how nbn is travelling in its goal to provide access to fast broadband to all Australians and to activate 8 million homes by 2020.
- The term 'Ready For Service', however, can be confusing. It applies to an area, not to individual premises and simply means Retail Service Providers (RSPs) can start selling service in that area.
- To make it clearer for consumers, nbn is now using two simple terms in its public reporting:
  - 'Ready to connect' – applies to premises in and RFS area that can order a service.
  - 'Not yet ready to connect' – applies to premises in an RFS area that need to wait for more work to be completed
- nbn has updated its website address checking function to provide an estimated timeframe for when premises 'not yet ready to connect' will be able to order services.

Fibre to the node (FTTN) and fibre to the basement (FTTB) rollout

- As at 28 September 2017 there were over 2.8 million premises in FTTN ready for service areas, with over 1.2 million activations.
- FTTN is being rapidly deployed across Australia and nbn expects this and related technologies to account for around half of the network by the time rollout is completed.

Hybrid Fibre-Coaxial (HFC) rollout

- As of 28 September 2017 there were almost 1.1 million premises in ready for service areas with 287,412 premises with an active service.
- nbn rollout of this technology is scaling up very rapidly at present.
- HFC services were launched in the middle of 2016..

Fixed wireless rollout

- As at 14 September 2017 over 543,000 premises are in an active service area.
- Over 199,000 homes and businesses have an active service.
- The fixed wireless network is to be mostly complete by 2018 and nbn expects to serve over 600,000 premises using this technology.
- nbn recently announced a major upgrade of its fixed wireless service which will double the top speed available in some areas from up to 50 to up to 100 megabits per second (Mbps) in 2018.

Sky Muster Satellite services

- As at 14 September over 78,000 homes and businesses have connected to the Sky Muster satellite.
- Over 420,000 premises are now able to order services.
- nbn commenced offering Sky Muster services on 30 April 2016.

S 22

- nbn's second Sky Muster satellite is now fully operational and its installation processes and service stability improved in the first half of 2017.

[For further details on satellite see SB17-000146 on NBN Satellite Services].

FTTC Service

- Rollout of FTTC is scheduled to commence in early 2018 which is set to benefit more than one million homes and businesses across the nation by 2020.
- nbn is working with stakeholders to develop a FTTC product, which is scheduled to be available to consumers and businesses by mid-2018.

BACKGROUND

nbn is deploying fibre to the premises (FTTP), fibre to the node (FTTN), fibre to the basement (FTTB), hybrid fibre-coaxial (HFC), fixed wireless and satellite technologies. nbn will also launch services over fibre to the curb (FTTC) technology (also called fibre to the distribution point (FTTdp)) in early 2018 – for further details see SB17-000135 NBN Future Rollout brief.

NBN rollout progress (as at 28 September 2017)		Ready for service	Activated
Technology Platform			
Brownfields	FTTP	1,126,933	847,451
	FTTN	2,800,902	1,269,642
	HFC	1,086,611	287,412
	Total	5,014,446	2,404,505
New developments FTTP		438,703	274,133
Fixed line Totals		5,453,149	2,678,638
Satellite	Sky Muster	420,957	79,358
	Total	420,957	78,358
Fixed Wireless		543,817	199,893
Grand Totals		6,417,923	2,957,889

ATTACHMENTS

Attachment A – Key Rollout Metrics – Cumulative

Attachment B – nbn's 15 August 2017 full year results presentation

Clearing Officer
Nadine Williams
First Assistant Secretary
Infrastructure and Consumer Division
Ph (02) 6271 1393
Mobile S 22, 47F

Date 5/10/2017

Contact Officer
Andrew Madsen
Assistant Secretary
Broadband Implementation Branch
Ph (02) 6271 1695
Mobile S 22, 47F

Attachment A

Key Rollout Metrics - Cumulative

Premises Ready for Service (RFS)*	2017 Corporate Plan Target for 2016-17	As at 30 June 2017 (Actual)	As at 14 September 2017 (Actual)	2017 Corporate Plan Target for 2016-17
FTTP Brownfields	1,100,000	1,126,729	1,127,343	1,200,000
FTTP Greenfields	400,000	396,147	431,317	500,000
FTTN	2,100,000	2,496,380	2,727,053	3,800,000
HFC	900,000	758,416	970,643	1,900,000
Fixed Wireless	500,000	517,543	540,952	600,000
Satellite	400,000	418,135	420,061	400,000
Total Premises RFS	**5,400,000**	**5,713,350**	**6,217,369**	**8,700,000**
Premises Activated				
FTTP Brownfields	800,000	826,151	844,835	900,000
FTTP Greenfields	200,000	246,668	269,969	300,000
FTTN	900,000	957,919	1,228,024	2,100,000
HFC	100,000	152,786	265,256	700,000
Fixed Wireless	200,000	184,678	197,341	300,000
Satellite	100,000	74,931	78,758	100,000
Total Premises Activated	**2,300,000**	**2,443,133**	**2,884,183**	**4,400,000**

* Premises classified as RFS refers to homes and businesses passed by the active network and ready for service, including premises activated and premises not yet able to access a service. If a premises is serviceable, the nbn website will now advise that it is 'ready to connect'. If a premises is unserviceable the website will advise that it is 'not yet ready to connect'.

S 22

NBN FUTURE ROLLOUT (INCLUDING: 2018 CORPORATE PLAN & 'READY TO CONNECT')

LEAD/SUPPORT: Nadine Williams / Andrew Madsen

KEY STATEMENT:

NBN Co Ltd (nbn) is managing the rollout to ensure it meets the Government's objectives of affordably delivering high-speed broadband to all Australian homes and businesses by 2020.

KEY ISSUES

- The company released its latest Corporate Plan on 31 August 2017, once again confirming that the National Broadband Network (the Network) is on track for completion by 2020.

- On average, around 40,000 consumers are connecting to the Network every week. Three-quarters of Australian homes and businesses will be able to access the Network by mid-2018.

- As at 28 September 2017, just over 6.4 million premises were in ready for service areas. The company is on track to meets its rollout target of 8.7 million premises in ready for service areas by 30 June 2018.

- The rollout is two-thirds complete in regional Australia.

- By June 2017, around 90 per cent of Australian homes and businesses were either in design, had construction underway or were already able to order a National Broadband Network service.

- The estimated peak funding remains unchanged at $49 billion. nbn forecasts that its revenue will almost double in the coming financial year from $1 billion in 2016-17 to $1.9 billion in 2017-18.

- Right now, more than 24,000 contractors and 6,700 nbn employees are engaged in designing and building the Network, and switching on services across 1,850 sites across the country.

- Fibre-to-the-node (FTTN) and High Fibre-Coaxial (HFC) will continue to dominate activity this year with Fibre-to-the-curb (FTTC) services becoming available during the first half of 2018.

- In order to balance the continuous technological progress and changing end-user demand, the Network is being built to deliver wholesale headline speeds and provide clear upgrade paths for each technology to cater for future forecast use as and when demand emerges.

S 22

Metropolitan rollout

- Rollout in major metropolitan areas will ramp up rapidly in the coming year.

- While residents and business–owners should expect some disruption from the construction work, nbn and its partners will ensure that a safe working environment for employees and the community will be maintained at all times.

- nbn and its partners have always, and will continue to, work with local Councils to minimise disruption during the Network build.

- However, in a project of this size some road closures and traffic disruptions will be necessary in some metropolitan areas, especially in localities with narrow streets.

Fibre to the curb (FTTC)

- On 28 September 2016, nbn announced its intention to use FTTC technology in the rollout, including in Optus-only HFC areas.

- In April 2017, nbn announced it was increasing the size of the rollout of FTTC to one million premises, primarily in Melbourne, Sydney and Brisbane, although the technology will be used in many locations across the country.

- In line with the Government's Statement of Expectations, nbn has advised that this deployment will reduce overall costs and provide a faster rollout.

- Commercial launch of FTTC services is planned for the first half 2018.

- nbn will be the first broadband retailer in the world to rollout the FTTC technology on a mass scale.

- FTTC works by delivering fibre all the way to the telecommunications pit outside a premises, where it connects into a distribution point unit (DPU) that then uses the existing copper line from the pit to the home.

- Like a number of aspects of modern broadband networks, FTTC will require a small power supply from the end user. nbn is engaging with State and Federal regulators to clarify licencing arrangements for this electricity supply.

Hybrid Fibre-Coaxial (HFC)

- The HFC rollout is making good progress with more than 1 million premises already ready for service and 1.9 million premises expected to be in ready for service areas by 30 June 2018.

- Consumers are taking-up services rapidly and nbn and delivery partners are deploying extra resources to activate customers.

- Going forward, nbn will work through areas systematically and complete civil works for all premises that don't have an existing lead-in before customers are able to order a service.

S 22

- This will reduce waiting times for connections and will reduce the likelihood that a technician's appointment may need to be rescheduled.

- nbn has changed the way it reports on these premises in the address checking function on its website. Homes and business in ready for service areas will be clearly advised whether they are able to connect or if they are not yet ready to connect.

- nbn will provide its best estimate of the timeframe for network availability to premises that are not yet able to connect.

Information about rollout planning

- nbn upgraded its 'check your address' function on their website on 27 February 2017 to help consumers better understand when they can actually order a service and connect to the Network.

- The update now includes information about the technology nbn expects to deploy in each location and if a premises is serviceable or unserviceable. The website will now advise that a premises is 'ready to connect' if it is serviceable. If a premises is unserviceable the website will advise that it is 'not yet ready to connect'.

- The company will also improve the functionality of its website address checking function to provide a best estimate of the timeframe for when premises 'not yet ready to connect' will be able to order services.

Changes to the Corporate Plan

- nbn has previously signalled that premises dilution and the shift of premises from Optus' HFC to FTTC would reduce the number of premises ready for service in 2017-18. This is now reflected in the 2018-21 Corporate Plan.

- The Corporate Plan also forecasts the number of unserviceable premises over the next three years:
    - 250,000 at the end of 2016-17
    - 400,000 by end of 2017-18
    - 150,000 in 2018-19
    - Zero in 2019-20.

- These are premises where construction work is required before a premise is declared 'ready to connect' – much of this work will involve constructing new lead-ins for premises on the nbn HFC network.

- nbn has indicated that premises within the HFC footprint will on average only experience a lag of up to six months while further work is completed.

S 22

FTTN upgrade path:

- nbn's business planning processes include built-in flexibility to implement potential upgrade paths in the future for all technologies in the technology mix, including upgrading FTTN.
- nbn continues to monitor, trial and test new technologies which may be used to upgrade the Network, including G.fast technology that provides an evolution pathway for FTTN technologies including FTTB and FTTC.
- nbn has publicly stated that it has no current plans to upgrade any section of the Network. The company expects to have sufficient cashflow capacity in the long term to upgrade the Network where a business case exists.

Premises Ready for Service Forecast – Corporate Plan 2018, page 36

Table 4   Ready for Service (RFS) profile

	2017-18 (Actual)	2018-19	2019-20	2020-21	2021-22
Premises RFS- cumulative (millions)					
FTTP Brownfields	1.1	1.2	1.2	1.2	1.2
FTTP Greenfields	0.4	0.5	0.6	0.7	0.8
FTTN/B	2.5	3.8	4.5	4.6	4.6
FTTC	0.0	0.3	0.9	1.0	1.0
HFC	0.8	1.9	3.0	3.1	3.1
Fixed Wireless	0.5	0.6	0.6	0.6	0.6
Satellite	0.4	0.4	0.4	0.4	0.4
Total	**5.7**	**8.7**	**11.2**	**11.6**	**11.7**
Percentage of initial build	**50%**	**76%**	**97%**	**100%**	**100%**

Note that total premises RFS as a proportion of FY2020-21 total RFS footprint, excluding incremental Greenfields growth.

Corporate Plan Comparisons 2017 to 2018

2017 to 2018 Plan Comparison: Technology Proportions		
	2017 Corporate Plan	2018 Corporate Plan
FTTP (Brownfields + Greenfields)	2m (2.0-2.5m range)	1.9m (17% of total) (1.8-2.2m range)
FTTN/B	6.1m (5.1m - 6.5m range)	4.6m (40%) (5.1m - 6.3m range, reduction due to increased FTTC + HFC)

S 22

2017 to 2018 Plan Comparison: Technology Proportions		
	2017 Corporate Plan	**2018 Corporate Plan**
FTTC	0	1m (8%)
HFC	2.8m (2.5 - 3.2m range)	3.1m (27%) (2.6m - 3.2m range)
Fixed Wireless	600,000	600,000 (5%)
Satellite	400,000	400,000 (3%)
Key Figures		
	2017 Corporate Plan	**2018 Corporate Plan**
2017-18	9.1m RFS 4.4m Active	8.7m RFS, 4.4m Active (200k fewer premises on map + 200k premises moved into FTTC in FY19)
2018-19	11.2m RFS 6.9 Active	11.2m RFS, 6.9m Active (100k additional fewer premises on map, but 200K premises moved forward from FY20 to FY19)
2019-20	11.9m 8.1m Active	11.6m RFS, 8.1m Active (due to 300k fewer premises)
IRR	3.2 - 3.7%	3.2 - 3.7%
Peak Funding	$46-54 billion ($8b range)	$47-51 billion ($4b range)

Clearing Officer
Nadine Williams
First Assistant Secretary
Infrastructure and Consumer Division
Ph (02) 6271 1393
Mobile SS 22, 47F

Date 6/10/2017

Contact Officer
Andrew Madsen
Assistant Secretary
Broadband Implementation Branch
Ph 6271 1695
Mobile SS 22, 47F

S 22

TELSTRA FINANCIAL PROPOSAL

LEAD/SUPPORT: Ian Robinson/Andrew Madsen

KEY STATEMENT:

On 30 August 2017 Telstra announced to the Australian Stock Exchange (ASX) that it would not be proceeding with its proposal to monetise the infrastructure payments it receives from NBN Co Limited (nbn), as nbn declined to provide consent.

S 47G(1)

KEY ISSUES

- Telstra indicated at its full year update on 17 August 2017 that it had provided a proposal to Government and nbn to monetise payments it receives from nbn. Telstra publically noted the proposal was subject to consents from nbn and the Commonwealth.
- The proposal sought to monetise approximately 40 per cent of Telstra's recurring nbn receipts to potentially raise between $5 to 5.5 billion.

S 47G(1)

S 47G(1)

S 47G(1)

SS 47C(1), 47G(1)

SS 47C(1), 47G(1)

S

S 22

BACKGROUND

S 47G(1)

For Telstra's full year results, announcement on 17 August 2017, Mr Andrew Penn, Chief Executive Officer Telstra, indicated that:

- Telstra have undertaken a review of their capital allocation strategy as announced at their half-year results in November 2016.
- If the potential transaction were to proceed, approximately 40 per cent of Telstra's recurring nbn receipts would be monetised and had the potential to raise approximately $5 to 5.5 billion.
- Net proceeds would be used for approximately $1 billion debt reduction with the balance provided for shareholder returns.
- Telstra were currently in discussions recognising the approvals and consents required from the Commonwealth and nbn.

Mr Penn emphasised that this was a complex transaction and it was not certain or guaranteed.

S 47G(1)

S 47G(1)   On 30 August 2017, Telstra released a statement noting that while the proposal was well progressed and supported by equity and debt investors, technical consents from nbn will not be forthcoming.

S 47C(1)

S 47C(1)   SS 47C(1), 47G(1)

SS 47C(1), 47G(1)

S 47G(1)

S 22

S 47G(1)

ATTACHMENTS
Attachment A: Market announcement by Telstra on 30 August

Clearing Officer
Nadine Williams
First Assistant Secretary
Infrastructure and Consumer Division
Ph (02) 6271 1393
Mobile ss 22, 47F

Date 27/09/2017

Contact Officer
Andrew Madsen
Assistant Secretary
Broadband Implementation
Ph (02) 6271 1695
Mobile ss 22, 47F

S 22

NBN FIXED WIRELESS AND SATELLITE SERVICES

LEAD/SUPPORT: Nadine Williams/Andrew Madsen

KEY STATEMENT:

The performance of the Sky Muster service is generally more stable and nbn has increased data caps for consumers.

KEY ISSUES

- As at 28 September 2017, over 79,000 homes and businesses had connected to the Sky Muster satellite.

- As at 4 October this year NBN Co Limited (nbn) has doubled the wholesale data caps and increased average peak downloads by 50 per cent on Sky Muster satellite services.

- nbn has also put in place systems and processes to address some initial installation and service problems, which has led to a better experience for consumers.

- The fixed wireless rollout is proceeding to schedule, with over 540,000 homes and businesses ready to connect as at 28 September 2017.

- nbn has announced the Qantas in-flight Wi-Fi trial which makes use of the satellite service will be extended until mid-November 2017.

- The Sky Muster system is designed so that consumers on the ground will always be prioritised over air traffic.

Increased data caps on the Sky Muster service
- In June this year nbn announced that from October 2017 it is doubling the maximum monthly wholesale data limits from 150GB to 300GB, and increasing average peak downloads by 50 per cent on Sky Muster services.

- The Government had asked nbn to look at practical ways to improve the performance of the Sky Muster satellites to address concerns from regional customers regarding low data cap offerings.

- nbn has been able to increase the overall data capacity of the satellites by using spectrum more efficiently.

- This additional bandwidth has supported nbn's changes to the Fair Use Policy which have enabled retailers to significantly increase data caps on their Sky Muster plans.

- These changes will enable Sky Muster satellite customers to download around 50 per cent more peak data and twice as much off-peak data.

- The changes took effect from 4 October this year. Plans available to consumers are determined by retailers, and can be expected to vary.

- A quick market scan shows that plans are currently available with up to 300GB in total data and up to 200GB in peak time data.

S 22

- nbn will continue improving the Sky Muster service and examining ways to further increase capacity to ensure it offers the best possible service to regional and remote customers.
- It is apparent that retailers have passed on the additional data available from nbn at minimal cost to consumers.
- Consumers should choose a broadband plan best suited to their individual circumstances.

Recent Sky Muster outage

- nbn has advised that there was an outage of Sky Muster services on 4 September 2017.
- The outage affected aroundS 47G(1)premises in parts of Victoria, Queensland, Western Australia and Lord Howe Island.
- The outage was caused by extreme cold weather resulting in the loss of power to the satellite ground station in Geeveston, Tasmania.
- nbn was able to restore services by 1pm the following day (Tues, 5 September 2017).
- End users in the Sky Muster footprint are still able to keep copper-based services if they are concerned about connectivity during extreme weather outages.
- As part of its usual business practice, nbn will undertake an assessment following an outage caused by a natural disaster or extreme weather event to determine where improvements can be made.

Network resiliency of Sky Muster ground stations

- The Australian Government understands the importance of telecommunications services during an emergency or power outage.
- nbn incorporates back up in its core network design in a number of ways. S 47G(1)
  S 47G(1)

- It is important to remember that no communications technology is completely resilient to power outages.
- It is strongly recommended that people do not rely on a single form of communication or source of information during disasters and extreme weather events. Even in areas where mobile coverage is available, any communication system can be temporarily affected by adverse conditions.
- nbn will undertake an assessment following an outage caused by a natural disaster or extreme weather event and implement learnings from this experience as part of its continuous improvement.

S 22

Sky Muster satellite capacity to airlines compared to limited data plans for consumers

- Industry has expressed interest in the possibility of expanding nbn's product range to include mobility products to serve consumers.

- As a first step nbn has been working with Qantas to trial Wi-Fi on aircraft using idle capacity on the Sky Muster service.

- nbn has indicated that the data requirements for providing in-flight Wi-Fi represent no more than three per cent of a spot beam's capacity at any one time.

- nbn's absolute priority is to Sky Muster users on the ground and ensuring that they have the best experience possible.

- This is why the Sky Muster system is designed so that consumers on the ground will always be prioritised over air traffic.

- NBN Co and Qantas are extending the trial until mid-November 2017.

- Additionally the trial is being broadened with up to 10 aircraft taking part, flying between Melbourne, Sydney and Brisbane.

- nbn's learnings from the trial will help inform the development of future satellite mobility products for the benefit of rural and remote Australians.

- nbn has already announced that it has agreed to carry out a trial of similar in-flight Wi-Fi products for the Royal Flying Doctor Service.

- If the trial is successful, the Royal Flying Doctor Service will be able to expand its tele-health and online health management reliably across regional and remote areas where this was not previously possible.

- nbn is also considering whether similar in-flight Wi-Fi products could be used to assist other community groups.

Fixed wireless services speeds

- nbn's fixed wireless network is world class, and has the highest consumer satisfaction scores of all of its technology types.

- The service offers download speeds of up to 50 Mbps, and nbn plans to introduce a 100 Mbps speed tier in 2018.

- Slowdowns of broadband speeds may occur over any access technology, in particular in peak periods.

- A range of factors can impact on the speed and quality of the service experienced by consumers, including how much capacity a retailer buys from nbn, the consumer's in-home set-up and the technology used by online content providers.

- Any consumers who are experiencing slowdowns should liaise with their retailer in the first instance. If the provider believes the problem relates to nbn's network, it will escalate the problem to nbn to investigate.

- Consumers who are dissatisfied with their retailer's response can refer the matter to the Telecommunications Industry Ombudsman (TIO). The TIO can be reached on free call at 1800 062 058 or via its website (www.tio.com.au).

S 22

- nbn has experienced strong demand for its fixed wireless technology, and as a result it has budgeted S 47G(1) to upgrade the network.
- The company is using taxpayer's money responsibly to ensure that the network is upgraded in line with demand.

BACKGROUND

Sky Muster is bringing broadband connectivity to underserved communities in regional and rural Australia where fixed-line infrastructure is not available. Sky Muster services are now available for order to all those in its footprint. nbn continues to address installation services and operational issues of concern to the delivery of quality services to regional Australians.

A total of around 420,000 premises are covered by Sky Muster, with about 240,000 premises ultimately expected to take up a service. As at 28 September 2017 there were 79,358 active Sky Muster services.

As at the same date, there were 543,076 premises covered by fixed wireless, with 199,893 premises connected.

Qantas in-flight Wi-Fi trial on Sky Muster

nbn has reached an agreement with ViaSat to provide it with its satellite mobility product, to be used for in-flight Wi-Fi for Qantas flights [non-public]. nbn and Qantas plan to publicly announce the agreement on 23 October 2017 [correct as at 12 October 2017].

The satellite mobility product is designed to prioritise Sky Muster fixed end user traffic over mobility traffic, and is expected to use no more than three per cent of a spot beam's capacity at any time.

Clearing Officer
Nadine Williams
First Assistant Secretary
Infrastructure & Consumer Division
Ph (02) 6271 1393
Mobile SS 22, 47F

Date 12/10/2017

Contact Officer
Andrew Madsen
Assistant Secretary
Broadband Implementation Branch
Ph 6271 1695
Mobile SS 22, 47F

S 22

NBN-AFFORDABILITY, PRICING AND TAKE-UP

LEAD/SUPPORT: Nadine Williams/Andrew Madsen

KEY STATEMENT:

The Government is committed to providing fast broadband to everyone in Australia as soon as possible at affordable prices.

NBN Co Limited (nbn) has introduced discounts as part of pricing arrangements and is continuing to improve the pricing model.

KEY ISSUES

- The National Broadband Network (the Network) is being rolled out across Australia, providing consumers with access to affordable high speed broadband.

- The Government has provided the company with flexibility to use a range of technologies that allow it to build the Network in the most cost effective way, which means lower costs for consumers.

- A quick market scan today shows there are low cost plans, providing 90 gigabytes for $40 a month, all the way up to high speed plans with unlimited data for $90 a month.[1]

- With more than 100 retail brands offering nbn broadband, households are free to shop around to choose a plan that meets their needs and budget.

NBN plans compared to ADSL

- ADSL plan prices are generally consistent with plans available over the National Broadband Network.

- The replacement technology offered over the National Broadband Network is vastly better than ADSL, being much faster and easily upgradeable.

- In many areas across Australia, ADSL is simply unavailable, while the National Broadband Network will be able to provide a minimum service of 25/5 Mbps to all Australians by 2020.

- Where ADSL is available in regional areas there is often limited choice of service providers. The National Broadband Network will provide a much wider choice for consumers.

---

[1] As at 26 September 2017, Skymesh has a 12/1 Mbps 90GB plan for $39.95 per month. Dodo has a 100/40 Mbps unlimited plan for $89.90 per month.

S 22

Connectivity Virtual Circuit (CVC) pricing model

- nbn's prices are not set in stone.

- On 1 June 2017 nbn's new CVC pricing model commenced.

- Under the new model retailers will receive CVC discounts based on the average amount of CVC they purchase, rather than being based on the average CVC purchased per customer industry wide.

- This will make it cheaper for many retailers to buy more CVC per customer, which should improve customer experience by reducing congestion on the network.

- The ACCC's most recent NBN Wholesale Market Indicators Report (30 June 2017) shows that average CVC per customer has increased by almost 10 per cent since 31 March 2017. This indicates that nbn's discounting is encouraging retailers to buy more CVC and improve their Networks' performance.

- nbn is continuing to review its pricing model to facilitate the take-up of higher speed tier plans, deliver profitable growth for RSPs and secure a sustainable long-term business model for the company.

- Quite rightly, taxpayers have funded a significant investment to upgrade Australia's local access telecommunications network and should reasonably expect that the NBN, as a public asset, will deliver a modest return over the coming decades.

Low income users and the discount model

- The new discount model has not increased the price of low cost plans, like voice-only plans.

- That's because nbn provides a 50 kilobit per second CVC credit for each access line purchased, which is more than enough to support many low cost plans.

- nbn offers this credit to help maintain affordability for voice-only services.

- In addition, Telstra is required under a condition of its carrier licence to offer products and arrangements to low income customers that have been endorsed by low-income consumer advocacy groups.

- This condition ensures that there is always an affordable product or products available in the market.

High prices and take-up on the NBN

- NBN take-up is not low.

- The number of customers connecting to the Network is growing quickly and is well in line with nbn's forecasts.

- At present around 40,000 families and businesses are taking up (activating) services every week.

- 75 per cent of homes and businesses have migrated to the Network where the 18 month migration period has finished, which is also in line with the company's long-term targets.

S 22

- nbn and construction partners deserve credit for working to streamline the nbn migration experience for consumers.
- Close to 2.9 million services are already active on the Network and by 2020, 8 million homes and businesses are forecast to have moved over to the faster, more reliable NBN.

Impact of writing down the value of nbn on CVC pricing

- Reducing nbn's valuation in the balance sheet has no direct or immediate impact on nbn's wholesale prices, including the CVC pricing component.
- The prices which nbn charges were set based on the existing cost of a broadband service supplied over the copper network.
- nbn's pricing, including the CVC component, is set out in its Special Access Undertaking (SAU) which was approved by the ACCC following extensive industry consultation and consideration.
- The SAU sets maximum prices the company can charge its customers and allows for the Government to make a modest return from the investment it has made in broadband infrastructure.
- nbn has considerable flexibility to adjust its prices and it has done so already three times.
- To ensure that nbn's pricing model continues to deliver quality broadband services at affordable prices to consumers, nbn has another review of its prices and products underway and it is consulting widely with retail service providers through that process.

Profitability of NBN

- The NBN is an infrastructure project with a large upfront investment which incurs significant operating losses in the establishment years, followed by a period of positive cash flow, then operating profits and eventually a long term positive return.
- From 2021-22, the company will reach peak funding and be cash flow positive, meaning it will no longer be reliant on Government funding and be able to start repaying debt.
- Taxpayers have funded a significant investment to upgrade Australia's local access telecommunications network.
- It is reasonable to expect that taxpayers will receive a return on this investment, when calculated out over an extended period to 2040.
- In the longer term, the company will generate dividends for the Government and provide a return on sale.
- In its 2018-21 Corporate Plan, the company forecast an internal rate of return of between 3.2 and 3.7 per cent, which is around 1 per cent above the long-term inflation rate
- nbn's recent results demonstrate that demand for nbn services continues to grow; the company is recording increasing revenue while providing wholesale price discounts; and the construction schedule is firmly on track.

S 22

BACKGROUND

Connectivity Virtual Circuit

CVC is the charge nbn charges RSPs for capacity on its Network. The amount of CVC RSPs purchase is one of many factors that affects the speeds consumers experience on the network. If RSPs do not buy enough CVC, this leads to congestion on the Network and slower speeds.

In June 2016, nbn introduced industry-wide dimension-based CVC pricing for RSPs. This rewarded RSPs with lower prices when industry as a whole bought more Network capacity per customer for fixed line and fixed wireless services. Then in July 2017, nbn introduced RSP specific discounts which currently apply to how much capacity individual retailers purchase per customer.

nbn's CVC unit pricing in the fixed line and fixed wireless networks has reduced from $20 per megabit per second (Mbps) in February 2015 to around $15 per Mbps now, taking discounts into account. With the company's currently forecast usage, nbn anticipates the price dropping towards $10 per Mbps.

The Australian Competition and Consumer Commission (ACCC) considered the price caps that should apply to high speed fixed line non-nbn carriers in its *Superfast Broadband Access Service and Local Bitstream Access Service Final Access Determination Joint Inquiry – Final Decision Report*, May 2017. The ACCC decided that non-nbn carriers should adopt the same discounting model as nbn. This decision ensures that retailers and their consumers supplied via non-nbn networks are not worse off than if they were supplied broadband services by the nbn. The regulated prices and other terms and conditions are expected to provide consumers with a larger number of retailers to choose from and deliver them better prices and services.

ACCC Wholesale Market Indicators Report

The ACCC released its sixth quarterly National Broadband Network Wholesale Market Indicators Report for the period ending 30 June 2017 on 11 August. The report found that the average CVC acquired per consumer has increased from around 1 Mbps to 1.09 Mbps since 31 March 2017.

Clearing Officer
Nadine Williams
First Assistant Secretary
Infrastructure & Consumer Division
Ph (02) 6271 1393
MobileSS 22, 47F

Date 5/10/2017

Contact Officer
Andrew Madsen
Assistant Secretary
Broadband Implementation Branch
Ph (02) 6271 1695
MobileSS 22, 47F

S 22

WEST COAST OF TASMANIA - TECHNOLOGY CHOICE ROLLOUT

LEAD/SUPPORT: Nadine Williams / Andrew Madsen

KEY STATEMENT:

NBN Co Limited (nbn) is on track to upgrade the rollout of broadband to the West Coast of Tasmania via its Technology Choice Program.

KEY ISSUES

- The Government is committed to ensuring Tasmania's West Coast has access to fixed line and fixed wireless broadband.

- nbn has advised that construction should commence in the area in the coming months. The commitment to put in place a combination of fixed line and fixed wireless broadband instead of satellite services to more than 2,700 West Coast homes and businesses in Rosebery, Zeehan, Queenstown and Strahan is on track.

- nbn's team is working productively to complete the upgrade and is updating the West Coast Council regularly on the project's progress.

- Fixed line and fixed wireless services should be available to towns on Tasmania's West Coast from mid to late 2018.

Why is fibre to the curb (FTTC) not going to be used in the fixed line rollout in Queenstown, Rosebery and Zeehan?

- nbn has advised that the extent of the use of FTTC will be determined during the detailed design process, but it is not an option at large scale.

- Under nbn's Multi Technology Mix deployment model, the company chooses the most appropriate technology for each area to ensure both an adequate quality of service and completion of the network as efficiently and cost-effectively as possible.

S 22

BACKGROUND

The Government announced an $18.5 million election commitment to deliver a combination of fixed line and fixed wireless broadband instead of the NBN Co Ltd (nbn) satellite service to more than 2,700 West Coast homes and businesses in Rosebery, Zeehan, Queenstown and Strahan.

nbn advises that it is working on the planning aspects of the construction, and has established a special team to oversee the project. Current activities include transit and local fixed line build (incl fixed wireless components) design, and survey work.

nbn expects that physical construction will begin in the next few months. The company is working towards a ready to connect target for the second half of 2018 for the fixed line build in Rosebery, Zeehan and Queenstown. For the fixed wireless build in Strahan, nbn forecasts that services will be available in mid to late 2018.

S 47G(1)

S 22

ATTACHMENTS

Attachment A – S 47G(1)
S 47G(1)

Attachment B – Letter to Bill Morrow, CEO of nbn from Tasmanian Minister for Information Technology and Innovation, the Hon Michael Ferguson MP dated 24 November 2016

Attachment C – Letter to Minister Ferguson from Bill Morrow dated 24 November 2016

Clearing Officer
Nadine Williams
First Assistant Secretary
Infrastructure & Consumer Division
Ph (02) 6271 1393
Mobile SS 22, 47F

Date 4/10/2017

Contact Officer
Andrew Madsen
Assistant Secretary
Broadband Implementation Branch
Ph 6271 1695
Mobile SS 22, 47F

Minister for Health
Minister for Information Technology and Innovation
Leader of Government Business in the House of Assembly

Ministerial Office:	Level 4, 111 Macquarie Street, Hobart Tas 7001
	Ph: (03) 6165 7701
Launceston Office:	Public Buildings, 53 St John Street, Launceston Tas 7250
	Ph: (03) 6777 1032
Postal Address:	GPO Box 123, Hobart Tas 7001 Australia
Email:	Michael.Ferguson@dpac.tas.gov.au

Tasmanian Government

Mr Bill Morrow
Chief Executive Officer
nbn
Level 11, 100 Arthur Street
NORTH SYDNEY NSW 2060

Dear Mr Morrow

Thank you for your letter of 17 November 2016 regarding West Coast Tasmania Technology Choice where you have advised that you have received written notice from the federal Regional Communications Minister of funding for the West Coast Tasmania technology choice project.

I note that the project will include extending the fixed line network to Queenstown, Zeehan and Rosebery, as well as fixed wireless to Strahan, and constructing secondary fibre transit links between Railton and Rosebery, and onwards to both Queenstown and Zeehan.

I note also that nbn considers that this project remains unchanged from Senator Fifeild's announcement of 12 June 2016.

I am pleased to confirm that funding for the project includes the Tasmanian Government honouring our commitment of $4.5 million of in-kind value for the use of TasNetworks' fibre assets.

Yours sincerely

Michael Ferguson
Minister for Health

24 November 2016

Australia's
broadband
network

24 November 2016

The Hon Michael Ferguson MP
Minister for Health
Minister for Information Technology and Innovation
GPO Box
Hobart, TAS 7001

Dear Minister,

West Coast Tasmania Technology Choice

I write in reply to your letter of 24 November regarding the Tasmanian Government's commitment to the West Coast technology choice project.

This letter is to officially confirm **nbn** is now able to commence detailed planning on the project and a specialised team have formed to begin the design and preparatory work involved.

nbn will be sure to keep you informed of the milestone activities and remain in close contact with your office.

Yours sincerely,

Bill Morrow
CEO

S 22

NBN - TECHNICAL ISSUES BRIEF (MICRO-NODES, FTTN UPGRADE PATH, CO-EXISTENCE PERIOD, FAULT LOGGING)

LEAD/SUPPORT: Nadine Williams/Andrew Madsen

KEY ISSUES:

Micro-nodes

- Micro-nodes (or Compact Sealed DSLAM (CSD) technology) are being deployed by nbn to premises that may be unable to receive high-speed broadband via the local FTTN network due to a variety of reasons, including their distance from the nearest node and the lack of nearby telecoms infrastructure.

- nbn advises that all previously installed micro-nodes are expected to be up and running by December this year.

- At 14 September 2017, of the 1761 micro-nodes in place, almost half have been activated and are delivering network services.

Fibre-to-the-node (FTTN) upgrade path planning

- At this stage, as nbn has previously outlined, there is no current plan to upgrade specific sections of the network.

- The company is looking to build the network within the funding envelope first, and then upgrade as business cases present themselves in future.

- While nbn has not committed specific funds to an upgrade of FTTN at this time, the company expects to have sufficient cashflow capacity in the long term to upgrade where a business case exists.

Co-existence period

- Co-existence refers to the period when to ensure quality of service to customers, nbn is required to reduce the signal strength of the FTTN and fibre-to-the-building (FTTB) networks. This is achieved by a downstream power back-off, so as not to cause interference with ADSL services operating over the same cables.

- Once all ADSL services have been disconnected (usually 18 months from when an area is declared ready for service) the co-existence arrangements cease.

- In the FTTN co-existence periods, nbn has a minimum peak information rate (PIR) of 12 megabits per second as its baseline 'performance commitment'.

- Due to these technical limitations the achievable speeds experienced by consumers may be lower than expected, however, once the co-existence period is finished consumers should see speed improvements.

S 22

- Different requirements are in place for reporting and logging faults during this co-existence period.

- At the end of co-existence in an area, all fixed line services must be able to achieve above 25 megabits per second.

Clearing Officer
Nadine Williams
First Assistant Secretary
Infrastructure and Consumer Division
Ph (02) 6271 1393
Mobile SS 22, 47F

Date 6/10/2017

Contact Officer
Andrew Madsen
Assistant Secretary
Broadband Implementation Branch
Ph 6271 1695
Mobile SS 22, 47F

S 22

BROADBAND - INTERNATIONAL COMPARISONS (NEW ZEALAND, AFFORDABILITY, FTTP ROLLOUTS)

LEAD/SUPPORT: Nadine Williams / Andrew Madsen

KEY STATEMENT:

NBN Co Limited's (nbn's) multi-technology mix rollout of the National Broadband Network has a number of unique elements and objectives, and as a result it is not possible to draw direct comparisons to broadband networks in other countries.

KEY ISSUES

- The extremely high cost of deploying fibre to the premises (FTTP) to every single premises is why most countries are deploying a mix of technologies to deliver broadband upgrades, including the United States, Canada, France and Germany.

- By comparison to other developed countries, Australia has a unique geography with large amounts of sparsely populated regional areas. As a result, it's not always possible to give an accurate comparison between broadband deployments and upgrades in different countries.

- For New Zealand this is particularly the case.

  ➤ New Zealand's funding model draws on a public/private partnership, whereby existing telecommunications companies build the broadband network and contribute around half the funding, with the remaining funding provided through Government equity and/or loans. The New Zealand Government has only needed to invest around NZ$2 billion (approx. AUD$1.83 billion).

    In Australia, nbn was established as a new Government Business Enterprise and provided with $29.5 billion of Government equity. In taking this approach, the Australian Government has assumed the entire investment risk, whereas the risk in New Zealand is split across the New Zealand Government and private sector.

  ➤ In New Zealand structural separation of the former incumbent network operator was achieved by a negotiated splitting of Telecom NZ into a wholesale operator - Chorus and a retailer provider - Spark. Whereas in Australia structural separation of Telstra is being achieved by building a new local access network and mandatory disconnection of legacy copper services.

S 22

> While the Australian model does have higher up-front costs due to the network construction, disconnection and migration model, the upside is that we have a take-up rate of around 75 per cent – by contrast the voluntary migration model in New Zealand means that FTTP take-up is still below 40 per cent. Over the longer-term this higher take-up rate will increase Australia's digital productivity and help nbn achieve its financial targets.

> The network in New Zealand will not be completed until 2022, unlike our network, which will be completed by 2020, even though New Zealand is about 29 times smaller than Australia.

> New Zealand only guarantees minimum download speeds of 10 megabits per second (Mbps) to all premises, while the Australian Government is guaranteeing a minimum download of 25Mbps to all premises.

> New Zealand has not needed to make use of satellite technology in its rollout and is able to rely on terrestrial wireless and mobile technologies for providing services beyond the fixed line footprint.

  For Australia, satellite has been necessary as this is the most cost effective technology to serve remote premises to ensure that all premises can access minimum broadband speeds of 25 Mbps.

> nbn is expected to spend around $4.5 billion in capital on the fixed wireless and satellite networks to provide essential broadband services to regional, rural and remote Australia. Of course, the Government has done this because it believes that all Australians, no matter where they live, should have access to fast and affordable broadband services.

Why is Australia using inferior technology like fibre to the node (FTTN) to complete the rollout when countries like New Zealand are taking an all-fibre approach?

- The Government made the decision to change from an all-fibre approach for fixed line areas to using a multi-technology mix, whereby nbn is given the mandate to deploy the most cost-effective technology in a given area.

- With this approach, nbn will be able to complete the rollout by 2020 and to provide minimum download speeds of 25 Mbps to all premises.

- By contrast, New Zealand is only guaranteeing download speeds of 10 Mbps to all premises and that the rollout will be completed by 2022.

- Part of the reason Australia is able to guarantee higher speeds is that it is making use of advanced satellites, while New Zealand does not use satellite for its broadband rollout.

S 22

- While smaller and highly urbanised countries like Singapore may be able to afford to deliver FTTP to every single premises, larger countries like the United States, Canada, France and Germany and others all deploy a combination of technologies to deliver broadband upgrades, due to the prohibitive cost of an all fibre model.

- It is notable that in the United States, Google Fiber has abandoned its original all FTTP-model to move towards a wireless network deployment due to the cost and time of deploying FTTP being too great.

Why is broadband more expensive in Australia than overseas?

- There are a range of views on broadband affordability and how Australia compares internationally.

- The recent ITU report on *Measuring the Information Society* found that by comparison internationally, Australia is improving in terms of broadband affordability. Australia's global affordability ranking has moved from 40th to 16th place.

- Price benchmarking data from Strategy Analytics shows that retail pricing for broadband in Australia is 7-13 per cent cheaper (in $US PPP[1]) than in New Zealand for speeds between 10 and 100 Mbps.

- It also should be noted that nbn's pricing includes a cross-subsidy that is helping to fund the non-commercial elements of the rollout, the satellite and fixed wireless networks.

- The satellite and fixed wireless networks are essential to nbn providing access to fast broadband for remote and regional Australia.

---

[1] Purchasing power parity, a method of calculating the actual purchasing power of any currency.

S 22

BACKGROUND

New Zealand rollout

Australia's size and geography is completely different to New Zealand's. Australia is around 29 times larger than New Zealand and also has large amounts of sparsely populated remote areas.

The difference in the investments is a stark reminder of how much larger the Australian NBN rollout is compared to New Zealand, with around 12 million premises to be covered, compared to only 1.5 million in New Zealand.

Other differences between the New Zealand and Australian rollout models are:

- mandatory migration – New Zealand does not have a mandatory copper disconnection, which means that fibre uptake has been demand-driven as residents can choose to remain on their copper connection.
- fibre subscription – according to the most recent OECD data[2], Australia is ahead of New Zealand for the annual growth of fibre subscriptions, at 35 per cent.
- technology type and possible speeds for rural areas – New Zealand's rural broadband initiative delivers broadband via a range of technology types, including fibre-to-the-node and ADSL or VDSL. It originally aimed to provide broadband speeds of 5/1, and will now draw on 4G services to deliver broadband capable of 100Mbps.
- pricing – there are no wholesale CVC charges for New Zealand, although there are access and backhaul charges.
- cost per premises for fibre to the premises – Australia is AU$2,031 for greenfields and AU$4,347 for brownfields. New Zealand is NZ$2,650 to NZ$2,900 (approx. AU$2500).

Affordability

Ernst and Young's Digital Australia 2017 report found that Australia had fallen to 57th in the world in terms of broadband affordability. Conversely, A paper by the ITU titled *Measuring the Information Society Report* ranked Australia's fixed broadband as 16th most affordable in 2016, up from 40th. The differences in these reports suggest caution should be applied when relying on international pricing comparisons.

FTTP rollouts

Countries that make use of a mix of technologies for their rollouts include the United States, Canada, France, Germany, Italy and the United Kingdom. It generally is just smaller and highly developed countries like Singapore that are able to afford all FTTP rollouts. It should be noted that while New Zealand's urban areas are being served entirely by FTTP, other technologies such as fixed wireless and ADSL are being used to serve regional areas.

Clearing Officer
Nadine Williams
First Assistant Secretary
Infrastructure & Consumer Division
Ph (02) 6271 1393
Mobile SS 22, 47F

Date 13/10/2017

Contact Officer
Andrew Madsen
Assistant Secretary
Broadband Implementation Branch
Ph 6271 1695
Mobile SS 22, 47F

---

[2] OECD Broadband Portal http://www.oecd.org/sti/broadband/1.11-FibreGrowth-2016-12.xls

S 22

JSCNBN REPORT

LEAD/SUPPORT: Nadine Williams/Andrew Madsen

KEY STATEMENT:

The Joint Standing Committee on the National Broadband Network (nbn) tabled its report on 29 September 2017. The report included 23 recommendations and included a dissenting report by the Chair, the Hon Sussan Ley. The Government is required to respond to the report by 29 December 2017.

KEY ISSUES

- There are a number of measures already underway that the report has not fully acknowledged.

- This includes the industry guidance that the ACCC has published and the work underway between retailers and nbn to make the order-to-connect process easier for households and businesses to navigate.

1 Fibre to the Curb/nbn financials (recommendations 1,2)

- The Joint Standing Committee on the National Broadband Network (NBN) has recommended that nbn complete as much of the remaining fixed line build using fibre to the curb technology, and that an independent audit of nbn's financial projections and business case be undertaken.

- The report fails to acknowledge that the multi-technology mix policy has been an effective approach to rolling out fast broadband as soon as possible, at affordable prices and at least cost to tax payers.

- Under nbn's current Corporate Plan, nbn is forecasting that a million homes and businesses will be able to access fibre to the curb, precisely because the multi-technology mix approach has given the company flexibility.

- In terms of nbn's financial projections and business case, the company's financial statements are already audited by the Australian National Audit Office, as required by its corporate governance arrangements.

- In addition, the Department of Communications and Arts and the Department of Finance provide the Government with a thorough review of nbn's Corporate Plan each year.

34

S 22

2 TIO/Complaints (recommendations 14,15,20)

- The Joint Standing Committee has made a number of recommendations on changes to the Telecommunications Industry Ombudsman (TIO).

- The TIO is an important consumer protection. An independent review of the TIO is already being undertaken, which will consider whether changes to the TIO's role and powers are necessary to deliver more effective dispute resolution. The TIO is now considering the reviews findings.

- In addition, my Department is already working with industry on potential improvements to the Telecommunications Consumer Protection code.

3 Consumer experience (recommendations 4,5,6,12,16,17,18)

- The Joint Standing Committee has made a number of recommendations that relate to the consumer experience on the NBN.

- The report does not acknowledge the substantial number of activities that the Government is already undertaking to ensure that the consumer experience is as good as possible. For example:

  - In August I convened an industry roundtable which has already kicked off a range of joint activities to improve the overall consumer experience for broadband consumers.

  - The Australian Competition and Consumer Commission (ACCC) has published guidance for retailers on how to advertise speed claims. Whilst non-binding, the ACCC has warned that these guidelines are the standard by which retailers will be judged in advertising.

  - The ACCC's Broadband Performance Monitoring Program will independently test broadband speeds and publish results by the end of the year that will give consumers real-world results of broadband speeds they can expect with different retailers.

  - Over coming months there will be new systems implemented to manage appointments, installations and reported faults.

  - The ACMA has also commenced new research into the consumer experience during NBN transition and has gathered information for across industry. This work will further help inform and guide changes to industry processes to make the experience of moving to the NBN as seamless as possible for consumers.

- The Government is confident that this package of measures is a strong start to addressing consumer concerns and has signalled to industry that it is willing to regulate should industry not deliver the improvements consumers need.

4 Regional services (recommendations 3,7,8,9,10,11)

S 22

- The Joint Standing Committee's report on the NBN has failed to acknowledge that broadband across regional Australia has never been better.

- In addition to providing NBN fixed line broadband services to 2.5 million regional premises, the Government is investing:

  o An expected $2.5 billion in capital expenditure on the fixed wireless network

  o Approximately $2 billion on nbn's satellite network

  o $220 million towards the Mobile Black Spot Program over three funding rounds

- Beyond these investments, the Government has also put in place further measures to improve regional broadband outcomes:

  o Recently, the Government has announced material improvements in the data capacity available over nbn's satellites. The upgrades will mean that retailers are able to offer on average 50 per cent more peak data and twice as much off-peak data to consumers.

  o There have also been upgrades in the fixed wireless network, which will mean that some consumers will be able to access speeds of 50 and 100 megabits per second.

  o nbn has also established a series of local teams, who will be a point of contact for all key stakeholders in a particular area. The nbn local teams will provide a local face to what is a national rollout.

5 Data metrics (recommendations 19,21, 22, 23)

- The Joint Standing Committee has recommended that additional data metrics about the NBN rollout be published.

- The Government is committed to the transparency and accountability of nbn. That is why since 2013 the Government implemented a series of reporting requirements to provide better information for the public. Improvements include:

  o the weekly rollout report.

  o improvements to nbn's website, which is now able to show when almost all premises in Australia will be able to connect to the network.

  o quarterly market updates.

  o detailed Corporate Plans that show the true financial and operational status of nbn.

- Beyond this, the ACCC's Broadband Performance Monitoring Program will independently test broadband speeds and publish results by the end of the year that will give consumers real-world results of broadband speeds they can expect with different retailers.

- The Government will consider additional briefing for the Committee, and what other information could be usefully published about the NBN.

S 22

6 Small business services (recommendation 13)

- The Joint Standing Committee has not acknowledged that nbn already has business products on the market specifically designed to meet the needs of small businesses.

- In addition, nbn's product roadmap published on its website, shows that further products are planned. For example, nbn is developing enterprise grade products that will be available over the satellite service.

S 22

BACKGROUND

The Committee has 17 members: comprising 5 Liberal Party, 1 National Party, 7 Labor Party, 3 minor parties and 1 independent. The Committee considered 191 submissions and held 15 public hearings covering every state and territory.

The Committee's recommendations covered the following issues:
- choice of technology (recs 1, 7, 8),
- nbn's finances (rec 2),
- regional and remote interests (recs 3, 11),
- consumer information (service issues, speed, complaints handling, complaints data, user satisfaction (recs 4, 16, 18, 19, 20, 21),
- rollout prioritisation (rec 6), activation models (rec 5),
- satellite services (recs 9, 10, 11),
- broadband supplier, small business and consumer guarantees and safeguards (recs 12, 13, 14, 17),
- expanded TIO powers (rec 15),
- subcontractor arrangements (rec 22), and
- digital inclusion (rec 23).

The Committee outlined a range of issues over a number of chapters.

Consumer Experience (Chapter 3)

The Committee noted:
- the activities of the TIO, and that complaints to the TIO doubled in FY 2015-16 and were expected to double again in FY 2016-17, however, in 'real' terms this increase is slower than the rate of new premises activations, and that consumers lacked visibility of the TIO scheme.
- quality and service issues were foreseeable and should have been systematically addressed earlier and the Committee was critical of the failure to identify and eliminate common issues.
- contractual arrangements did not effectively establish rights and obligations to protect consumers.
- consumers are not informed about, and cannot see, the speed capacity of their connection.
- the impact that delays and missed appointments have on small business.

Sky Muster (Chapter 4)

In terms of Sky Muster, the Committed noted:
- speed was considered to be acceptable, but stakeholders thought pricing was not competitive, download limits poor, data capacity inadequate, latency (of up to 1.6 seconds) made voice unacceptable, weather impact (rain fade) could be significant.
- missed appointments, technicians' lack of appropriate equipment, could be especially problematic in regional/remote areas due to time needed to reschedule follow up – a survey by the "Better Internet for Rural, Regional & Remote Australia" (BIRRR) organisation showed that 20% do not activate on installation (p. 72).
- one plan per premises does not recognise business use, even though the BIRRR survey showed 51% business use of satellite - may be conflict between family and business data needs.

S 22

- satellite should be 'last resort' technology and reduced capacity strain could be ensured by deploying more fixed wireless (and facilitate co-location of mobile services).
- Via Sat operate 4 high capacity satellites; plan to launch three more in 2019.

The Committee recommended:
- increases to the fixed wireless rollout as satellite was intended to be technology of 'last resort' and noted that satellite rollout to areas previously planned for other technologies dilutes capacity available.
- establishing a benchmark for reasonable data allowances for satellite users by reference to fixed line network.
- establishing a reference group to ensure greater consultation with satellite users.
- disclosure by nbn of the data underlying its Fair Use Policy.
- that business plans should be additional to the 'one plan per premises' policy.

Customer Experience (Chapter 5)

The Committee noted:
- regulatory and practical changes were needed to improve end-to-end experience, including broadband or service performance guarantees.
- access to affordable reliable broadband is essential to participation in modern society and running a business.
- lack of enforceable consumer rights and protections is a regulatory deficiency
- the TIO lacks power to require all parties in the supply chain to cooperate to resolve complaints (noting that most complaints are logged against Retail Service Providers (RSPs) as nbn is the wholesaler).
- delay in resolving complaints impacts on small business and poses a health and safety risk for households.
- RSPs are failing to tell customers about the TIO scheme when complaint made to RSP.
- nbn should provide clear and accessible information about its complaints process
- improving the quality, clarity and timeliness of information is critical to ensure consumers are not misled.

The Committee recommended:
- revision of the TCP code to incorporate ACCC's broadband speed marketing principles.
- that nbn must provide actual attainable line speed information on a disaggregated premises basis prior to service purchase across all technology types (in combination with ACCC's broadband performance monitoring program).
- that Government should provide funding for general consumer education/awareness activities.

S 22

Data Collection (Chapter 6)

The Committee noted:
- sources of customer satisfaction information included data collected by nbn; TIO complaints data; ACMA research data, however, nbn's data was limited and the TIO complaints monitoring did not provide granularity on specific issues such as missed appointments, technology type, identification of party responsible.
- customer satisfaction information made available by nbn was inadequate for analysis and overall evaluation.

The Committee recommended:
- monthly publication of specific consumer metrics by nbn (net promoter score, including for each technology, disaggregated user satisfaction in relation to each RSP and for specific geographic areas).
- expansion of TIO powers to allow data collection by technology type and separation in reporting multiple issues to identify all parties involved.
- publication of monthly nbn data by the Department about network/service fault restoration, connection performance (right first time activations), service level agreement activities.

Industry, Market and Regulatory Characteristics (Chapter 7)

The Committee noted:
- the use of subcontracting arrangements by nbn for construction, identifying complaints about 'workmanship', property damage, and adequacy of training,
- that the claimed negative impact of nbn's pricing structure on competition and the consumer experience appears to be improving following the introduction of nbn's discount model in June.

The Committee recommended:
- nbn review its subcontracting practices and provide advice to the Committee.

Economic and Social Benefits (Chapter 8)

The Committee noted:
- importance of broadband for agricultural applications, and its effect in stimulating regional growth and development (including specific regional initiatives).
- importance of broadband for telehealth services (including healthcare in the home).
- criticality of digital inclusion (accessibility, affordability, ability to use), especially for Indigenous peoples and the elderly.
- fast, reliable internet facilitated improved participation in education and training.

The Committee recommended that digital inclusion be measured and reported, potentially by inclusion in the Productivity Commission's work on income and wealth inequality.

Clearing Officer	**Contact Officer**
Nadine Williams	Andrew Madsen
First Assistant Secretary	Assistant Secretary
Infrastructure & Consumer Division	Broadband Implementation Branch
Ph (02) 6271 1393	Ph (02) 6271 1695
MobileSS 22, 47F	MobileSS 22, 47F
Date 17/10/2017	

Attachment A: Committee Recommendations

Target of recommendation	Substance	Number
ACMA	Update Telco Consumer Protection Code to include nbn services – enforceable standards for marketing speeds (aligned with ACCC guidance)	17
ACMA	Consider requiring RSPs to inform consumers of service issues	18
Department	Brief Committee on regulation of wholesale broadband services to provide supplier protections	12
Department	Publish monthly fault, performance, connection, service level agreement data	21
Government	Fixed line rollout – complete using FTTC at a minimum (or FTTP)	1
Government	Independent audit of nbn's financial projections/business case	2
Government	Direct nbn to establish regional and remote reference group to consider business decisions	3
Government	Regulate for provision of maximum attainable speeds	4
Government	Require nbn to disclose areas now designated for satellite that were previously FTTN/fixed wireless areas	7
Government	Require nbn to develop plan to co-locate mobile on fixed wireless towers	8
Government	Ask nbn to consider offering separate business and residential Sky Muster plans at same premises	9
Government	Set benchmark for reasonable data allowance for satellite	10
Government	Direct nbn to establish reference group to consider Sky Muster policy and rollout (see rec 3)	11
Government	Amend Telco Consumer Protection Code to require RSPs to advise about existence of TIO scheme	14
Government	Direct nbn to identify complaints handling process	16
Government	Measure digital inclusion	23
nbn	Develop activation framework modelled on New Zealand	5
nbn	Advise Committee about complexity/time requirements for service class 0/10/20 premises and underserved areas	6
nbn	Disclosure of areas now designated for satellite that were previously FTTN/fixed wireless areas	7
nbn	Develop plan to co-locate mobile on fixed wireless towers	8
nbn	Consider offering separate business and residential Sky Muster plans at same premises	9
nbn	(with RSPs) Develop small business products including service guarantees/remedies	13
nbn	Identify complaints handling process	16
nbn	Publish monthly consumer metrics	19
nbn	Advise Committee about subcontracting arrangements – engagement, training, dispute resolution, global best practice	22
Regional and remote consumers	Reference group to consider business decisions affecting end user experience	3
Regional and remote consumers	Consultation on Sky Muster policy and rollout	11

s 22

S 22

Target of recommendation	Substance	Number
RSPs	Regulation of wholesale broadband services to provide supplier protections	12
RSPs	Disclosure of service issues to consumers	18
RSPs	(with nbn) Develop small business products including service guarantees/remedies	13
TIO	Give power to compel parties to cooperate to resolve complaints	15
TIO	Expanded data keeping role	20

S 22

NBN CONSUMER EXPERIENCE

LEAD/SUPPORT: Nadine Williams/Sylvia Spaseski

KEY STATEMENT:

The Government has put in place a range of measures to improve the National Broadband Network (NBN) consumer experience.

KEY ISSUES

The Government has put in place a broad range of measures to improve the consumer experience.

CEO Forum – joint industry action

- On 21 August 2017, The Minister convened an industry roundtable to agree to joint action to improve the customer experience in migration to a new NBN service.

- CEOs committed to immediate action to tackle priority areas including provision of consumer information, appointment, installation and disconnection processes, handling of complaints (including escalations), and pricing. **Attachment A** provide greater detail on these issues and how that impact customers.

- nbn has developed a strategic program of work focussed on improving the end to end consumer experience through the Future of Customer Experience program (Program FoCX). Program FoCX is focussed on improving systems, processes and information flow between nbn, retail service providers and its delivery partners. This program adds to other initiatives being undertaken by industry.

- The CEO Forum reconvened on 9 October 2017 and provided Government an update on the work being undertaken by individual industry parties and the work they are doing jointly including under the FoCX program.

- The CEO Forum will report to Government again by the end of November 2017 and it would be expected that substantive progress will have been made.

Migration Assurance Framework – a guide for the telecommunications industry

- The nbn requires multiple parties in the telecommunications industry to work together to migrate customers off the Telstra copper network to a new NBN service.

- On 21 August 2017, the Government published the Migration Assurance Framework. Developed in collaboration with industry, the framework sets out the roles and responsibilities of all industry parties to ensure customers experience a seamless migration.

- nbn, major retail service providers (Telstra, Optus and Vocus), industry partners (Foxtel and Next Telecom), and Communications Alliance have committed to applying the framework.

S 22

ACCC action

- Performance information, including reliability and download speed, are key factors for consumers in purchasing an internet plan from a retail service provider.

- On 21 August 2017, the ACCC released guidance to retail service providers to encourage the provision of accurate and helpful information on advertised broadband speeds so customers can make informed decisions when purchasing NBN services and broadband plans.

- While non-binding, the ACCC has warned that these guidelines are the standard by which retail service providers will be judged in advertising.

- Furthermore, the ACCC has been investigating cases of misleading conduct relating to the marketing of broadband speeds, including potential breaches of the Australian Consumer Law, and may take formal enforcement action later this year.

- The Government also recently announced the Broadband Performance Monitoring and Reporting program which will enable consumers to determine typical speeds delivered at various times throughout the day via independent reporting of broadband speeds.

- The ACCC will independently monitor NBN fixed-lines services offered by a range of providers and publicly report the results starting later in 2017.

ACMA action

- In August 2017 the ACMA announced it is commissioning research to obtain information directly from customers about their experience before, during and after migration to the NBN. The research will span the range of technologies that are used to connect households and businesses to the NBN.

- Additionally, the ACMA is using its formal powers under the Telecommunications Act to collect information from businesses across the NBN supply chain to help target industry improvements.

- 21 industry participants including retailers, wholesale providers and nbn have received notices seeking a range of data on issues such as fault handling, connection timeframes, appointment keeping, complaint handling, and more.

- This information will be used to target effective steps to improve the overall consumer experience and to better understand why consumer expectations are not being met.

TIO action

- The Telecommunications Industry Ombudsman (TIO) is monitoring consumer complaint volumes and will continue to refer suspected breaches of industry codes to the ACMA for possible enforcement action.

- The TIO is also taking a number of steps to respond to the significant structural changes which are occurring in the telecommunications industry arising from the roll out of the NBN.

S 22

- The first independent review of the TIO Scheme is underway. The review is examining the TIO's dispute resolution processes and whether changes would deliver more effective dispute resolution in a high volume complaint environment.

- The TIO has also consulted on proposed changes to its Terms of Reference. The changes are intended to improve communication and information flow in complex complaints, where resolution requires the involvement of all parties in the supply chain.

- These sorts of improvements would be valuable in helping industry to work out where to focus their business improvement and consumer experience strategies.

Current consumer safeguards

- The ACMA and the ACCC will continue to take enforcement action where there is a failure to comply with current consumer safeguards, including co-regulatory industry codes that outline expectations of industry in relation to managing complaints, providing clear information on services and customer service practices.

- The Department of Communications and the Arts is currently developing a framework for a review of consumer safeguards.

- The review's overarching objective will be to assess the effectiveness, relevance and ongoing utility of the existing suite of consumer safeguards in a post NBN rollout environment.

- The Department is working to ensure the review intersects sensibly with several other initiatives underway, including: the Productivity Commission's USO review and the Government's response; NBN consumer experience initiatives; and the Government's Statutory Infrastructure Provider (SIP) package currently before the Parliament.

nbn's CVC pricing

- nbn's prices are not set in stone.

- On 1 June 2017 nbn's new CVC pricing model commenced.

- Under the new model retailers will receive CVC discounts based on the average amount of CVC they purchase, rather than being based on the average CVC purchased per customer industry wide.

- This will make it cheaper for many retailers to buy more CVC per customer, which should improve customer experience by reducing congestion on the Network.

- The ACCC's most recent NBN Wholesale Market Indicators Report (30 June 2017) shows that average CVC per customer has increased by almost 10 per cent since 31 March 2017. This indicates that nbn's discounting is encouraging retailers to buy more CVC and improve their networks' performance.

- nbn is continuing to review its pricing model to facilitate the take-up of higher speed tier plans, deliver profitable growth for RSPs and secure a sustainable long-term business model for the company.

S 22

ATTACHMENTS

Attachment A .s 47C(1)

Clearing Officer
Nadine Williams
First Assistant Secretary
Infrastructure and Consumer Division
Ph: (02) 6271 1393
Mobile : SS 22, 47F

Date 6/10/2017

Contact Officer
Sylvia Spaseski
Assistant Secretary
Consumer Broadband Services Branch
Ph: (02) 6271 1754
Mobile : SS 22, 47F

S 47C(1) - PAGE REDACTED IN FULL

S 47C(1) - PAGE REDACTED IN FULL