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OVERVIEW

A Regional Telecommunications Independent Review Committee (the Committee) is established every three years under Part 9B of the *Telecommunications (Consumer Protection and Service Standards) Act 1999* (the Act) to conduct a review into telecommunications services in regional, rural and remote parts of Australia.

The Terms of Reference for the Committee include:

- consideration of the adequacy of telecommunications services in regional, rural and remote parts of Australia, and
- whether people in these areas have equitable access to telecommunications services that are significant to them, and are currently available in one or more parts of urban Australia.

The Committee will also consider the following:

- the impact of infrastructure and service improvements, including what will be delivered by the rollout of the national broadband network (the nbn) and the Mobile Black Spot Programme, and
- the relevance going forward of the current universal service obligations, and the associated consumer safeguards and protections that relate to service connection, repair and maintenance.

The Terms of Reference are in accordance with the requirements for the review set out in section 158P of the Act.

The 2015 Regional Telecommunications Review is an independent review. The Committee comprises Ms Deena Shiff (Chair), Ms Su McCluskey, Mr Robin Eckermann and Ms Georgie Somerset.

The public is invited to engage directly with the Committee over the coming weeks through a range of online forums. These discussion forums will be structured around specific areas of interest and topics and will provide opportunities to discuss key issues related to this review directly with Committee members. Online discussion participants have the added benefit of being able to engage in real time with experts in the subject matter. A calendar of forum times and topics will be made available at [www.rtirc.gov.au](http://www.rtirc.gov.au).

Make a submission

The Committee welcomes submissions from individuals, businesses, peak bodies and other interested organisations. This issues paper provides an outline of key areas of interest and invites submissions sharing experiences and perspectives on these areas. Questions are presented as a guide for framing submissions and you can address all the questions or only some of them. Your comments are also not limited to the questions.

Submissions will be accepted until Wednesday 15 July 2015. If you want to make a submission, please consider information provided in Appendix 1.

You can email your submission to secretariat@rtirc.gov.au

If you are unable to submit electronically, you can post your submission to:

2015 Regional Telecommunications Review Secretariat
Department of Communications
GPO Box 2154
CANBERRA ACT 2601

Visit [www.rtirc.gov.au](http://www.rtirc.gov.au) for more information about the Committee, the review, and the consultation process.
Questions

The Committee is seeking views on how the Australian Government and other levels of government, industry and the community can support access to telecommunications services that meet the needs of people living in regional, rural and remote parts of Australia.

Key questions to consider:

| Q1. | Do people in regional Australia believe their reliance on telecommunications differs from those in urban areas? How does it differ and can you provide examples? |
| Q2. | For those users already connected to an nbn network service, has the service met your expectations? |
| Q3. | Having regard to the technical solution likely to be used in your area, do you have views on the adequacy of that solution in terms of meeting needs now and into the future? |
| Q4. | Irrespective of the adequacy of your local access, are there issues with backhaul or long distance carriage that impacts on your use of telecommunications services? |
| Q5. | For users living in areas without mobile coverage, what priorities, other than specific locations, do you consider should be recognised in future efforts to improve coverage? |
| Q6. | What opportunities do the mobile network industry see for extending coverage in regional Australia and increasing investment in mobile networks? |
| Q7. | Do you have any views on co-investment approaches that might help to improve the broadband technology outcome in your area? |
| Q8. | How might new applications and services that utilise mobile networks for voice and data transform the way you live and work? |
| Q9. | What communications barriers have you experienced in expanding or operating your business or providing services, such as health or education? Have you been able to overcome these barriers and if so, how? |
| Q10. | What communication functions (e.g. speed, mobility, reliability, data, etc) would best suit your needs, noting the limitations of each technology (e.g. mobile, wireless, satellite, fibre)? |
| Q11. | Do we need to continue to guarantee the standard telephone service for all (or only some) consumers, and if so, to what extent? |
| Q12. | Are there new or other services, the availability of which should be underpinned by consumer safeguards? |
| Q13. | What standards should apply to your services? How might they best be enforced? |
Chapter 1: How does demand for telecommunications services inform this Review?

Since the 2011–12 Regional Telecommunications Review, the nature of demand for telecommunications services in Australia has changed significantly.

These changes include:

- the increased adoption of e-commerce and formation of new online businesses
- the increased take-up of services over broadband that were previously only face-to-face, including some education, government and health services
- the use of sensors, analytics and control tools in a wide range of agricultural, mining, manufacturing and other sectors which is increasing automation and productivity
- intensified connectivity over social media, and
- shifts in the consumption of entertainment – with much greater take up of video and demand-based content provided over broadband.

In the near term these trends will become even more profound, as underlying infrastructure (including the nbn and mobile networks) provides greater capacity to consume data.

People in regional Australia have much to gain from these trends in terms of lifestyle, economic opportunities and more equitable access to education and social services.

The Committee is conscious that where population density declines the types of infrastructure on offer will vary and the business case for further investment to extend mobile networks will also be impacted.

Accordingly, this Review is particularly interested in:

- the pattern of demand for new data services in regional Australia
- areas where the most significant challenges are faced, or are likely to occur, in the provision of relevant infrastructure, and
- most importantly, what can be done to improve access to services to target those services that are needed most.

* This issues paper uses the term ‘regional’ to refer to ‘regional, rural and remote’ areas collectively.
The Committee is interested in locations where fewer retail providers have entered the telecommunications market and consumer choice is limited. It will also consider the adequacy of services provided over satellite by nbn™ (nbn) compared to other technologies.

The Committee will also examine the existing consumer safeguards to determine their continued future relevance and role in the supply of basic telecommunications services to regional areas. These safeguards were originally designed to ensure all consumers could rely on a basic telephone service.

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Chapter 2: How are telecommunications services in regional, rural and remote Australia delivered?

The delivery of telecommunications services relies on networks that utilise a range of different technologies and media. Some are designed to support long-distance (national and international) communications, others are designed to support local access to an aggregation point (traditionally to a Telstra exchange).

Access networks are commonly classified as supporting fixed connectivity (that is, at a specific location only) or mobile connectivity (where users can move around and remain connected). The Committee recognises that the types of access network technology available in an area will impact communities’ ability to embrace new and emerging opportunities, particularly by the small business sector and in areas such as health, education, emergency services and e-commerce.

Fixed networks

Historically, Telstra’s copper network was the predominant fixed access network in Australia. It was designed to deliver a telephony service but with the advent of the internet has undergone upgrades to support data services. Early dial-up connections have now mostly been replaced by broadband connections using ADSL technology, hybrid fibre-coaxial (HFC) technology, or satellite and radio-based links.

The largest infrastructure project ever undertaken in Australia, the Australian Government’s nbn, at around $41 billion, heralds a new era in fixed access network infrastructure. It will ensure every Australian has access to a minimum standard of broadband services on more equitable terms. Still in the early stages of deployment, the nbn network will use a range of different technologies to deliver broadband connectivity. The choice of technologies will be influenced by considerations such as the opportunity to leverage existing infrastructure, population density and geography.

The range of technologies the nbn network will use differs between urban and non-urban areas. New premises in greenfield estates of more than 100 dwellings (mainly in urban areas) will be developed with fibre-to-the-premises (FTTP) technology. This is the best technical solution, essentially abolishing all speed limits, but is expensive and time-consuming to deploy. FTTP has also been deployed in some early nbn network rollout areas, and will continue to be deployed where there is a commercial case to do so.

The vast majority of remaining urban areas will be serviced using either:

- a fibre-to-the-building (FTTB) or fibre-to-the-node (FTTN) technology in which the final connection to the user is made over a short run of existing copper, capable of high-speed performance, or
- HFC technology, utilising the existing Pay TV networks built in the 1990s and already used for providing high-speed broadband services.

All of these cabled approaches support performance levels well above what most users need and there is substantial scope for ongoing performance increases over time.
Some non-metro areas (particularly larger population centres) will be serviced with the above approaches, but as population densities decline they become uneconomic to deploy cabled solutions. This means around seven per cent of premises in Australia will be serviced by either fixed wireless or satellite.

- Fixed wireless will support connections within approximately 10km of a transmission tower. As the capacity of the airwaves is finite, this approach might dictate some greater limitations than apply to the technologies deployed in urban areas.
- Satellite will provide service in all other areas. The capacity of nbn’s new satellites will be much greater than those currently in operation but satellite is a finite and shared resource that needs to be rationed or prioritised. Latency is also inevitable with satellite performance, creating issues for real-time interactive uses.

Information on the deployment of the nbn network, including rollout maps for consumers and sellers, is available on the nbn web site.

The nbn network will operate as a wholesale-only network and end-users will need to choose a retail service provider (RSP) that offers services over it. While the delivery technology will be determined by nbn, retailers will differentiate their services in terms of price, quality, content quotas and value-add services. Legislative obligations will be placed on nbn as the wholesale provider of last resort and these arrangements can be applied to other carriers on a geographical basis where appropriate.

The Committee notes that the nbn network is not providing end-to-end connectivity as RSPs will be required to use or acquire backhaul capability from the points of interconnection with the nbn to the core of their network. Similarly, mobile network operators require backhaul for their networks to carry voice and data over the long distances between a mobile tower and the core of their network.

When the nbn network is complete, it will deliver universal access for all Australians based, for the first time, on broadband rather than telephony.

### Questions

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### Mobile networks

Telstra, Optus and Vodafone are the primary networks for supporting mobile connectivity. Networks have been upgraded from 2G (2nd generation) to 3G to 4G technology, with each advance enabling higher speeds and capacities. 5G mobile network upgrades are expected from about 2020.

Competition in relation to network coverage continues to drive significant carrier investment resulting in increased overall geographic coverage. It is estimated that non-metropolitan coverage of 3G stands at approximately 98 or 99 per cent of the population (depending upon the carrier) in comparison to 100 per cent urban coverage. All operators have predicted increases in 4G coverage this year extending to at least 90 per cent of the total population. Co-location options on towers are possible for carriers wishing to extend their mobile footprint.
However, the economics of mobile coverage and of network upgrades is challenged where population density is too low or where roads connect communities across a vast geography. Even though approximately 98 or 99 per cent of the total population has coverage where they live, around 70 per cent of Australia’s land mass has no coverage.

WiFi hotspots also offer a level of mobility, typically limited to about 100m reach. They are usually used in conjunction with a fixed broadband service to support mobility around customers’ premises but can also be deployed in arrays to provide coverage of larger areas such as town centres and campuses. These are not a substitute for the broader area coverage provided by mobile networks. However, they can support high-speed services and offload some of the traffic that might otherwise contribute to mobile network congestion.

The Committee is particularly interested in advice from the mobile network industry on key barriers to extending coverage and increasing investment in mobile networks. It seeks to better understand the extent to which access to existing infrastructure (for example, shared towers and nbn network backhaul capacity) might alter the business case for extending coverage in regional areas.

Questions

Q5. For users living in areas without mobile coverage, what priorities, other than specific locations, do you consider should be recognised in future efforts to improve coverage?

Q6. What opportunities do the mobile network industry see for extending coverage in regional Australia and increasing investment in mobile networks?
New funding models

Partnering with nbn

There could be situations where a non-FTTP technology solution planned by nbn for an area falls short of end-users expectations and requirements and a key stakeholder (for example, end users, or local or state government) is willing to contribute towards securing a FTTP outcome. nbn’s Technology Choice program provides a mechanism for interested parties to pay for a change to their nbn network access technology. Possible examples include business parks, innovation precincts and the like.

The Committee welcomes views on a systematic approach to such upgrade or co-investment possibilities.

New funding models and mobile services

Public Private Partnerships have proved an effective model for improving telecommunications infrastructure in regional areas. The Mobile Black Spot Programme is an Australian Government initiative providing $100 million of funding to improve mobile coverage along major transport routes, in small communities and in locations prone to experiencing natural disasters. In the most recent round, Australian Government funds attracted co-investment from state and local governments and the private sector to satisfy investment hurdles that otherwise could not be met.

The Committee will be seeking views of prospective investors in mobile infrastructure (including in WiFi hotspots) as to what use can be made of this and other innovative funding models. For example, have models that aggregated user demand (for example, in a service town or a collection of agricultural businesses clustered in a geography) assisted, or could they assist, in investment planning and investment decision-making?

Funding nbn non-commercial services

In response to recommendations from the Vertigan Panel review of the nbn network, the Department of Communications’ Bureau of Communications Research (BCR) has been commissioned by the government to measure the magnitude of the anticipated losses over time from fixed wireless and satellite services and advise on options for funding these non-commercial services through a levy on networks delivering nbn-like services. Specifically, the BCR is considering alternative funding arrangements that are more transparent, sustainable and pro-competitive than the current nbn internal cross-subsidy approach (nbn charging above cost on fixed line areas and transferring funds to loss-making fixed wireless and satellite areas, requiring constraints on competition in fixed line areas). The BCR has recently released a Consultation Paper to consider how to fund nbn services that will remain non-commercial over time, that is, where the returns from sale of services will not offset the costs of supply.

In considering this issue, the Review will also look at whether these future arrangements will allow for the contestable supply of these services in rural and remote areas. The Committee will consider a range of factors, including new technologies suited to remote geographies, likely interest of alternative suppliers and the costs and benefits of creating commercial or administrative arrangements that are dedicated to the needs of regional users.

Question

Q7. Do you have any views on co-investment approaches that might help to improve the broadband technology outcome in your area?
Chapter 3: How are services being used in regional, rural and remote Australia?

The increased take-up of broadband has led to a greater reliance on online services. The Committee is interested in hearing how people living in regional Australia use these services and the experiences they have had.

Government services

Government services have traditionally been available by phone or by visiting a local shop front. Many of these services are now available online, reflecting a growing consumer preference to access services anywhere and anytime, with any internet-connected device. Government agencies across Australia are moving to meet this demand by improving the functionality of their websites and increasing the range of services available. It is important that Australians living in regional Australia have access to an appropriate level of connectivity so they can use these services, and that alternative methods continue to be available for people unable to access them online.

The Australian Government is establishing the Digital Transformation Office to drive delivery of government services digitally. Commencing 1 July 2015, it will work across government to coordinate the transformation of digital services, with a view to making them easier for individuals and businesses to access online.8

Education

People living in remote Australia have a long history of using communications for distance education. The School of the Air, for example, has been operating for more than 60 years. With the digital age, distance education has evolved from a largely radio or mail-based system to one which depends on computers and wireless or satellite connectivity, allowing the use of videos and live streaming. The Committee recognises there are challenges to be overcome, as the example below from a regional parent shows.

‘Presently I have a Year 10 and 12 student studying full time at home. Over the years I have seen the schooling change from radio ‘air’ lessons to the introduction of lessons using Centra and Webex which require high speed internet to access. Downloads used to be relatively small in the past due to support materials being mailed to families.

Over the years virtually all of the curriculum material and resources have become only accessible online and need to be downloaded so students can complete work. Video tutorials are everyday occurrences now and most teachers require students to watch anything up to 20 or 30 minute videos before completing a task each day. Just last year we needed approximately 2GB a day to complete school and now we need at least 3 or 4GB a day.

The cheapest and highest plan for us is a wireless broadband allowance of 25GB a month for $160. Even at only 3GB a day, that is just over eight days before we run out of data each month’.9
Health

Adequate telecommunications services are essential for building a more connected health system. Hospital systems and primary care networks are making significant investments in new online support tools and integrated care systems to improve the exchange of information by accessing patient records and communicating in real time.

The Committee refers, as an example, to the Western NSW Integrated Care Strategy, which includes the deployment of a range of online support tools and services to help overcome health and distance restrictions to delivering personalised, holistic care to patients.10

As these systems are being rolled out nationally, the Committee is interested in the adequacy of telecommunications services in the regional local health districts compared to their urban counterparts. The Committee would also like to hear about innovations and best practice in using telecommunications to improve care in regional Australia.

Emergency services

Frequent natural disasters in Australia threaten lives and property. Having the right infrastructure and processes in place to support emergency services is essential. Under the National Emergency Warning System, for example, landline and mobile phone location-based warnings are sent to people potentially affected by a real or emerging threat.

The Committee understands that the provision of telecommunications underpinning emergency services is critical, especially to regional communities most at risk of environmental disasters. The Committee will consider the adequacy of telecommunications infrastructure in the support of emergency services.
Business

High-speed broadband offers real economic benefits to businesses and communities in regional Australia. It provides opportunities for growth by providing access to new markets, more efficient management of inventories and supply chains, access to cloud services and participation in e-commerce. It allows regional businesses the same opportunities to innovate as businesses operating in urban areas.

The economic benefits to business have clear flow-on effects for the communities in which they operate. Teleworking, for example, allows people to work from the community in which they live, negating the need to travel to a larger urban centre and keeping spending in the community. Improved connectivity also enables businesses to spread outside the capital cities to regions with lower costs of living.

Improved connectivity also has the potential to provide better access to the education and training required to operate a business in regional, rural and remote Australia. Communication technologies allow employees to work remotely and access distance education and training. This could be as complex as building a virtual network, or a cluster of skilled employees with flexible working arrangements operating in different time zones; or as simple as viewing an online video to get advice on how to repair a piece of equipment. Adequate skills and training should not be compromised by location.

In January 2011 Simone Eyles, a graphic designer in Wagga Wagga, launched an app called 365 Cups that allows people to pre-order coffee from their favourite cafe via mobile phone. The app has since spread to 52 cafes across Australia and New Zealand, recorded 72,000 orders for customers and delivered more than 521,000 cups of coffee. Almost four years later, more than $3.5 million worth of orders have been processed from Western Australia to New Zealand and the organisation plans to expand to Asia, the US and Israel.11

Questions

| Q8. | How might new applications and services that utilise mobile networks for voice and data transform the way you live and work? |
| Q9. | What communications barriers have you experienced in expanding or operating your business or providing services, such as health or education? Have you been able to overcome these barriers and if so, how? |
| Q10. | What communication functions (for example, speed, mobility, reliability, data, etc) would best suit your needs, noting the limitations of each technology (for example, mobile, wireless, satellite, fibre)? |
Chapter 4: Consumer safeguards

There are range of consumer safeguards in place to protect Australian consumers in relation to their telecommunications services. These protections are particularly relevant for those living in regional Australia where communication services are vital, but where there is limited commercial incentive for telecommunications carriers to invest in the necessary infrastructure to provide or maintain these services.

The safeguards are currently contained in legislation, regulations and co-regulatory codes of practice and reflect the current fixed-line, voice-only environment. These are mainly directed towards:

- ensuring equitable and reliable access to telephone voice services through the Universal Service Obligation (USO) and National Relay Service
- improving customer service, in particular for connection and repair timeframes, contract terms and conditions and complaints handling through the Customer Service Guarantee, the Telecommunications Consumer Protection Code and the Australian Consumer Law 2011, and
- providing important safety nets for vulnerable consumers, such as Priority Assistance.

The origins of the USO pre-date the advent of broadband and mobile phone technology and reflect the social obligation to ensure that all Australians had access to a fundamental telecommunications service. Over time, the universal service has been refined to relate specifically to a ‘standard telephone service’ (STS), and consumer safeguards currently ensure that the entitlement is underpinned by commercial and technical measures.

The rollout of the nbn network as a ubiquitous broadband network fundamentally changes the telecommunications environment with considerable implications for these safeguards. When the nbn network is fully deployed, approximately seven per cent of premises will continue to be served by the copper network (Telstra) for voice services, and nbn will provide broadband with fixed, wireless and satellite technologies. Consumers will have access to better broadband, not just voice services, and voice services will increasingly be delivered via VoIP technology, rather than via the public switched telephone network.

Coinciding with the rollout of the nbn network was the departure from a solely regulatory model for the delivery of public interest telecommunications services to a contractual overlay (with Telstra contracted as the USO provider until 2032). The USO continues on the assumption there will always be some uneconomic telecommunications services where competition alone will not deliver the required outcome.

With the advent and enthusiastic uptake of mobile telephony, many Australians in coverage areas view their mobile phone service as their most critical telecommunications service, enabling them to make or receive calls not only in their home location but also from further afield. In addition, a growing number of Australians are abandoning an STS in favour of other voice services that are underpinned by broadband and all the services that can be built on top of it.

As the nbn network rollout extends, these options will become available to more regional Australians. The key exceptions will be those in areas without mobile coverage, and where nbn uses satellite technology for broadband delivery with its inherent latency characteristics (which degrade the experience for real-time interactive activities).
Wholesale access to broadband services will be provided by nbn and other competitors across Australia who will also increasingly be responsible for the reliability of their own networks. Since nbn and other networks must be structurally separated (i.e. network owners cannot provide both wholesale and retail services), a more competitive retail service market is expected to deliver improved consumer access. However, if competition does not emerge as expected, achieving equitable consumer access could still require some intervention in the market.

Competing retailers can be expected to differentiate on the basis of customer service, improving the outcome for consumers. However, complaints to the Telecommunications Industry Ombudsman on fixed line services have been increasing in recent months and this could indicate that service standards might need to be extended to meet consumer expectations in the future.

Similarly, safety net provisions could require direct intervention to assist certain consumers to access the services they need into the future.

The Committee is interested in views on whether these provisions, or new consumer safeguards will be important to consumers.

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APPENDIX 1

Publication of submissions
The secretariat will make the submissions publicly available at www.rtirc.gov.au unless the submission is confidential.
The secretariat reserves the right not to publish any submissions, or part of a submission, which in its view contains potentially defamatory material, or where it considers it appropriate for confidentiality reasons.

Submission requirements
Please provide documents in a standard word-processing format.

Confidentiality
The secretariat will treat all submissions as non-confidential unless the submitter specifically requests that a submission, or part of a submission, is kept confidential. Alternatively, a submitter may choose to provide an additional version of that submission for public release.

Submitters of material marked as confidential or sensitive must understand that submissions might be released where authorised or required by law or for the purpose of parliamentary processes. In this instance, the secretariat will strive to consult submitters of confidential information before providing that information to another body or agency.

Privacy
The secretariat will treat any personal information provided in accordance with the Department of Communications’ Australian Privacy Principles Privacy Policy (see www.communications.gov.au/privacy). Note that submissions will generally be subject to the Freedom of Information Act 1982.

Contacting the secretariat
You can email your submission to secretariat@rtirc.gov.au
If you are unable to submit electronically, you can post your submission to:
2015 Regional Telecommunications Review Secretariat
Department of Communications
GPO Box 2154
CANBERRA ACT 2601

Further information about the 2015 Regional Telecommunications Review and the Committee is at www.rtirc.gov.au

Contact the Committee secretariat by:
• Email to secretariat@rtirc.gov.au
• Telephone on 1800 064 851 (free call from a landline service)
For people who are deaf or have a hearing or speech impairment

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- TTY users 133 677 then ask for 1800 064 851
- Speak and Listen (speech-to-speech relay) users phone 1300 555 727 then ask for 1800 064 851
- Internet relay users connect to www.relayservice.com.au and then ask for 1800 064 851

Endnotes

1 The minimum standard of 25 Mbps download and 5 Mbps upload is set out in the Government’s Statement of Expectations (April 2014) and the nbn Corporate Plan 2014-17

2 Latency is defined as the amount of delay, measured in milliseconds, that occurs in a round-trip data transmission.

3 Rollout maps are available on nbn’s website, available at www.nbnco.com.au

4 Legislation is currently being draft consistent with information provided in the Government’s New developments policy paper and the BCR’s NBN non-commercial funding options consultation paper, both available at the Department of Communications website.

5 NBN Co’s Technology Choice Policy

6 More information on the Mobile Black Spot Programme is available at the Department of Communications website.

7 BCR’s consultation paper is available at the Department of Communications website.

8 More information about the Digital Transformation Office is available at www dto.gov.au

9 Case study based on anecdotal information provided to the Committee.


11 Case study from Regional Australia Institute report, [In]Sights for Competitive Regions: Technological Readiness