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Mr Paul Lindwall
Commissioner
Productivity Commission
GPO Box 1428
Canberra City ACT 2601

BARCOO SUBMISSION TO THE PRODUCTIVITY COMMISSION'S TELECOMMUNICATIONS UNIVERSAL SERVICE OBLIGATIONS INQUIRY

Dear Sir

Barcoo Shire sits in the very south west corner of Queensland -remote Australia. The shire is concerned that governments have failed to give adequate priority to digital infrastructure necessary to deliver communication (voice, mobile and data) in rural and remote regions.

This response will not reply to each issue paper question, instead it will attempt to give the Productivity Commission a balanced view of the needs of remote areas for digital communication services and calls for a new definition of a Universal Service Obligation, a charter that reflects the digital telecommunications requirements of a modern world. Digital communication is the cornerstone of today's society and all predictions suggest unrestricted growth in demand. A Universal Service charter must address connectivity. Connectivity means data communication, mobile communication and voice communication elements. A definition of availability, affordability, service standard, service guarantee of these services must be defined and included as part of the charter. Equally these definitions cannot be static. Data usage and connect speeds are constantly improving and any definition for a universal service charter must have provision to change over time.

At present delivery of online services (health, education, security) is denied to the shire because it is poorly serviced by digital telecommunications infrastructure. From an economic prospective rural and remote Australia contributes significantly to the national economy through agricultural, farming and resource production. Given no network providers can make a positive business case to deploy the required digital infrastructure, its time government returned some of the rural and remote tax revenues in the form of a rural and remote universal service obligation. A new Universal Service charter based on connectivity is required to bring better equality to rural and remote Australia.

The Barcoo Shire¹ in partnership with the Diamantina² Shire developed a plan to accelerate the shires into 21st century digital communications. The overall reason – economic growth, regional sustainability and societal wellbeing. The nbn SkyMuster™ service will not underpin the required digital infrastructure and aging

¹ The Barcoo Shire is serviced by three towns; the local government administration town Jundah, Windorah gateway to iconic Birdsville and Stonehenge located near the Department of Defence 'Over the horizon radar installation'. The local government area of Barcoo Shire has a total area of 61,952.5 km² (3.6% of Queensland). The Shire's main industry is beef production and to a lesser extent wool production, opal mining, earthmoving works and tourism and hospitality.

² The Diamantina Shire is serviced by two towns; the iconic town Birdsville and the administrative town Bedourie. The local government area of Diamantina Shire has a total area of 94,870.6 km² (5.5% of Queensland) and lies within the region known as the Channel Country in far southwestern Queensland Australia. The shire is situated against the South Australian border, is classified remote and is the Queensland gateway to the Simpson Desert. The Shire is predominantly a beef producing area containing some of the best containment free natural fattening country in Australia. Tourism is also a key industry.

terrestrial radio systems (DRS and HCRC) is 1970s technology. The shire has no optic fibre backbone infrastructure. The shires had suffered service infrastructure failures and poor service quality³.

This year as a result of funding from the three levels of government (Federal, State and Local) over 550km of optic fibre will be laid connecting the five shire towns to the national grid⁴. More importantly a wholesale shift in digital services will occur. The towns will finally be able to connect to 4G mobile services, ADSL 2+ broadband services, high speed IP enterprise services and have quality and (higher) reliability voice services⁵. Each shire committed over \$2M to the project, a real stretch for remote local government.

The Commission seeks options for government to deliver universal services and the costs and benefits of these interventions from a community-wide perspective. Barcoo shire is a classic example of where reasonable market outcomes were unlikely (without government intervention). The shire, in collaboration with the University of Southern Queensland is about to conduct a longitudinal study on the sustainability, economic status and social wellbeing of Barcoo's transformation into a connected digital world⁶.

The Issues Paper appears to be biased towards an economic perspective and seek a minimalist approach to a Universal Service Obligation. Digital communication is such a fundamental service for Australia's economic health and societal wellbeing. The past three Regional Telecommunication Review reports (Glasson 2008, Sinclair 2011-12 and Shiff 2015)⁷ have called for reform/expansion of the Universal Service Obligation. In essence the call for expansion beyond fixed voice services is a consistent factor. Successive governments have ignored this recommendation.

The Commission states the primary policy question is, " ... *to what extent, in the evolving Australian telecommunications market, Government policies may be required to support universal access to a minimum level of retail telecommunications services*". Fundamental to discussing a Universal Service Obligation is the nature, scope and objectives of a universal service. It is unconscionable in the twenty first century to consider the USO in terms of its original 1990s framework, a framework designed to address the public's demand, at that time, for a basic voice service. Technological advancement has seen enormous changes in terms of mobility and data connectivity far in advance of the basic fixed voice service. Society and business fundamentals have also changed to such an extent that digital communications through online, mobility communications, video and plain voice communications are integrated into the essence of modern living. New thinking on the components of a Universal Service is due.

³ <http://www.diamantina.qld.gov.au/documents/800087/4073594/079-Media%20Release-180%20Residents%20left%20with%20No%20Phones...again>

⁴ Connecting Remote Regions in Central West Queensland project

⁵ <http://statements.qld.gov.au/Statement/2016/1/22/western-shires-to-fire-up-new-highspeed-internet>

⁶ Study Objectives

- ❖ Establish detailed baseline socio-economic profiles and community characteristics before the digital upgrade and then plot them over time, identifying changes, patterns, and variations, including innovations - assessing the impact of improved connectivity and communication on the resilience, quality of life, social and economic processes and sustainability of the five case remote communities in Central Western Qld;
- ❖ Provide valuable insight into consequential and cumulative impacts of improved connectivity, potentially informing methods for enhancing the investment of similar infrastructure in other remote regional communities;
- ❖ Draw out for local, regional and other government stakeholders the detailed implications of digital investment and capacity across regional systems including government and business services, safety, emergency response and planning, transport and communications, health and well-being and broader regional community development.

⁷ RTIRC 2015 <http://www.rtirc.gov.au/wp-content/uploads/sites/2/2015/10/RTIRC-Independent-Committee-Review-2015-FINAL-Low-res-version-for-website.pdf> and RTIRC 2012 <https://www.communications.gov.au/publications/2011%E2%80%9312-regional-telecommunications-review> and RTIRC 2008 https://www.communications.gov.au/sites/g/files/net301/f/2008_Glasson_Report_RTIRC.pdf

The issues paper references a *minimum level of retail telecommunications services* and the term *minimum* cannot refer solely to voice communication. *Minimum* must be redefined to be inclusive of mobile and data connectivity if it's to be relevant (meet societal requirements) now and into the future. Should the Commission take a minimalist approach to formulating a new Universal Service Obligation it will fail those with insufficient market power to secure appropriate digital telecommunication service.

The Commission's Issues Paper (June 2016) seeks to frame the USO in the context of market, technological and policy developments. It describes, in short, how government programs, government policies, the market and new service introduction might cause the USO to be less relevant and effective. Nothing can be further from reality. To cast the USO in such a narrow context ignores the economic significance communications in a digital age. From a societal perspective, peoples' adoption and thirst for services is accelerating year on year and markets have failed **rural and remote** people in terms of building digital infrastructure that underpin digital services.

Historically market failure in rural and remote regions (retail markets have failed to deliver appropriate services) has seen numerous Government intervention programs (Networking the Nation, Coordinated Communications Infrastructure Fund, Mobile Black Spot, the \$250M Regional Backbone, to name a few) targeted to address the digital gaps. A national strategy to deliver a national digital network that can grow and adopt to new technology and service is required not the patchwork collection of policies the past has delivered.

Remote Australia, with its enormous land mass and sparse population, is a special case requiring government intervention. All carriers or service providers recognise the unique challenges pertinent to rural and remote Australia and that commercial returns are not possible without government funding. Successive governments have failed to develop policies and programs specifically addressing these factors and have instead relied on generic policy and programs.

The Barcoo Shire supports the Broadband for the Bush Alliance Forum V⁸, delegate call for formulation of a *Remote Telecommunications Strategy*, that identifies the unique characteristics faced by rural and remote people. Without the strategy to drive policy and inform those not attuned to rural and remote realities the result is a one-size-fit-all infrastructure and digital engagement framework the digital divide for the bush will expand.

Recently politicians and commenters have flagged that VoIP apps and services⁹ (Skype, FaceTime, WhatsApp etc) offer new voice competition platform that can be offered over nbn SkyMuster™ service. Quality VoIP calls using the nbn SkyMuster™ VoIP calling as a standard voice option is **not an option**. The ICPA (Qld) Inc. Position Paper, "The retention and improvement of the Telecommunications USO" gives a succinct explanation. In part it argues that "*International Telecommunications Union Recommendation G.114 specifies a maximum round-trip latency threshold of 300ms for acceptable voice services. As shown in Section 4.1.1 (of their paper), the round-trip latency for satellite signals is between 500 and 600ms— twice the allowable threshold. With this level of latency, the quality of service leads to a poor user experience*" and "*Because of satellite susceptibility to these issues, the use of satellite as a replacement for traditional landline service (or terrestrial wireless) for voice communications is not desirable, especially when the service involves 911 (000) and other critical services.*"

The ACCAN paper, The Connected Consumer *The future of consumer focused communication services*¹⁰, called for a minimum standard applied at network level in terms speed (download and upload), committed

⁸ <http://broadbandforthebush.com.au/broadband-for-the-bush-forum-v-2016/>

⁹ For a list from Market Clarity see <http://marketclarity.com.au/voip/>

¹⁰ <http://accan.org.au/our-work/policy/1245-the-future-of-consumer-focused-communication-services>

information rate, latency, jitter, packet loss and reliability should be established and that further consideration needs to be given as to what standard of data services is required by consumers.” RAPAD supports the need for minimum data standards to be defined. The advent of data services has left many consumers confused over the meaning of various access and service description in the data world. Even those comfortable with data products are subjected by ISPs to a range of complex requirements when challenging the ISP over service performance.

Barcoo Shire urges the Commission **not** to consider VoIP type technology/services as an option for a voice Universal Service, if the access technology is satellite technology.

The Commission focus on the NBN rollout as a factor influencing (future) a USO standard telephone services indicates a failure to understand the shift in the public’s demand for a set of basic digital services. Reliance on a basic fixed voice service as a USO is outdated thinking. Mobile services have been embraced by Australians and the 7,000 plus registration of Mobile Black Spot (Round 1) locations demonstrates the public’s concern over coverage issues. The NBN is not the solution to address mobiles as a Universal Service as it not was designed from a policy prospective or from a design platform to deliver mobile services.

The Barcoo Shire is designated as a NBN satellite region. The shire through a 10 year journey has secured optic fibre infrastructure and the (soon) introduction of 4G mobile service, ADSL 2+ services, high bandwidth IP services and better quality voice services. A tectonic shift in online and mobile engagement is expected. The research project associated with the project should be reviewed by the Commission to better understand the call for a new Universal Obligation.

The government policy position that the NBN return a positive is likely to influence decisions to leverage the NBN for a Universal service structure. The government would need to restructure its expected returns to exempt Universal services carried over the NBN.

Should mobile technology be considered as a delivery platform for a voice Universal Service certain consumer safeguards need to be in place. The current mobile market is considered competitive. Consumers can purchase services from Mobile Network Operators (MNO) or through their reseller channels. For rural and remote regions competition levels equivalent to metropolitan areas remains elusive because most areas are served by only one supplier. The MNO national pricing structures is beneficial to rural and remote consumers.

MNOs quote mobile coverage by population which is meaningless in rural and remote areas especially when transport corridors (roads) are important coverage criteria.

Australia’s land mass is its rural and remote regions. It is these regions that need the most attention in a new Universal Obligation that includes mobile services. The Regional Telecommunications Review states, *“the low population density over the remaining geography means that new approaches are needed to assess the priorities of those in the 70 per cent of Australia’s land mass that has no mobile coverage, and to improve poor coverage elsewhere”*¹¹. It expanded by stating, *“In uneconomic areas where there are demonstrable benefits that may also require funding support for both capital and operational expenditure, this could be undertaken through a consumer safeguard fund (discussed further in Chapter 4) which could have the flexibility to offer capital or demand side subsidies.”*¹²

Inclusion on a mobile element in a new Universal Service must be accompanied by greater infrastructure investment in rural and remote digital infrastructure. Barcoo Shire has shown leadership and gained government intervention to rectify market failure in its region.

¹¹ Regional Telecommunications Review 2015 p 36.

¹² Ibid p 37.

Continued technology developments (3G, 4G and 5G) suggest mobiles must be included as a delivery platform for a new Universal Service charter that includes voice, data and mobility. The current shift to IP mobile voice also needs consideration.

Without mobile network roaming choice by consumers in rural and remote locations will be limited, if mobility were included in a Universal Service. Telstra, the dominate mobile network, leverages its coverage to secure customers and in rural and remote regions consumers who often have no competitive option or competitor coverage is patchy hence unreliable (especially on transport corridors). The Commission should seek information on establishing mobile network roaming to allow greater consumer flexibility and coverage.

The current USO has a minor effect on competition (mobile services and VoIP apps are the competitive option for most) and digital communication innovation has moved to a data platform. Over The Top communication¹³ mobile services and broadband services are now driving telecommunications services. Broadband access is the key requirement for these services and speed of access and data limits are the major consumer issues. The Commission should seek to address how all Australia can have equitable access (quality, reach and affordability) to these service under a new Universal Service charter.

The government funding of the USO and NBN gives no perceivable difference in terms of availability, affordability, service standard and guarantee for remote Australia who are left with a legacy voice USO (fixed voice service) and inferior broadband (satellite) connection.

It is unconscionable in the twenty first century for the government to consider the USO in terms of its original 1990s framework, a framework designed to address the public's demand, at that time, for a basic voice service. The public demand telecommunications services in terms of mobility and data connectivity, not basic fixed voice service. Unfortunately, successive governments have considered and developed universal telecommunications services in isolation of the broader policy objectives. A good recent example of this is the policy of driving the growth of northern Australia. The Office of Northern Australia (ONA) is a conduit between all levels of government, industry and the people of northern Australia and provides advice and initiatives to drive economic growth and investment¹⁴. Yet the government has not prioritised digital communication as a vital element is development, market development or resource management. The benefits of a connected northern Australia are obvious to all who are resident in the region.

Society and business fundamentals to demand digital communications through online, mobility communications, video and plain voice communications are integrated into the essence of modern living. New thinking on a Universal Service charter is due. A new charter should address availability, affordability and accessibility as well a digital literacy, a requirement not normally necessary for voice service.

The digital divide will expand is rural and remote residents do not have access to comparable digital services. Digital communication is key to sustainability, economic development and societal wellbeing. The service quality must be equivalent however some metropolitan differentiation in service types maybe acceptable. That differentiation should be at the retail service competitive level, a limited set of higher level services (i.e. Telstra's GWIP in communities without local government facilities) and high cost mobile platforms where lower priced technology options exist.

Should current payphone USO services continue? If not, what alternatives to these services should be considered?

¹³ **Over-The-Top content (OTT)** is the delivery of audio, video, and other media over the [Internet](https://en.wikipedia.org/wiki/Over-the-top_content) without the involvement of a [multiple-system operator](#) in the control or distribution of the content. See https://en.wikipedia.org/wiki/Over-the-top_content.

¹⁴ <http://northernaustralia.gov.au/>

The significant expansion in the availability, use and quality of mobile phone services is acknowledged but in rural and remote areas coverage can be sparse. And the further remote your residence or travels the lesser the coverage experienced. , Whilst the use of payphones continues to decline, with only around 6 per cent of adult Australians having used a payphone in the six months to May 2015 and the number of Telstra payphones has declined by 46 per cent from over 32 000 in 2003-04 to around 17 500 in 2014-15 there is still a need, especially in rural and remote area for the public to be able to access a public facility for voice connection or a free or pay-as-you-go option.

The Barcoo Shire recommends continuation of a public facility for voice connection or a free or pay-as-you-go option. The free option could be built on free WiFi connection (suitable for those with smart phones and a suitable app) but for those without a mobile or suitable mobile handset continuation of the current public payphone service appears to be the best option.

In closing Barcoo Shire urges the Commission to expand the definition of a Universal Service to include data and mobiles (linked to the Australian average affordability, service standard and digital literacy standard), design a new USO with special consideration for rural and remote consumers.

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