



**Regional
Development**
Australia

GOLDFIELDS ESPERANCE

Regional Telecommunications Review 2015

Regional Development Australia
Goldfields-Esperance



SUBMISSION

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Regional Development Australia Goldfields–Esperance

Through extensive stakeholder engagement Regional Development Australia Goldfields Esperance (RDAGE) established a regional vision for the Goldfields Esperance, for:

A sustainable region of flourishing and resilient communities enjoying an improving quality of life founded on:

- A diverse and robust economy that fosters enduring business development and personal prosperity
- Equitable, regionally focused social conditions, services and amenities
- A natural environment protected and preserved for its intrinsic value and for its foundation role in economic and social advancement
- Contemporary governance conditions that promote regional development opportunities and accommodate regional circumstances

The Goldfields–Esperance region of Western Australia is a vast area covering just under a third of Western Australia (three times the size of Victoria), yet containing only 2.5% of the State's population and 0.26% of the Australian population. Regional population growth is well on the way to the 2026 predicated growth of 62,200 residents under a medium growth projection.

The region covers nine local government areas and is represented by the Federal electorates of Durack and O'Connor, and the State electorates of Kalgoorlie and Eyre.

The Aboriginal population is 9.9% of the region, compared to 3.4% State-wide. Within the region, the Aboriginal population ranges from 4.3% in the Shire of Esperance to 84.2% in the Shire of Ngaanyatjaraku.

Mining and related services are the key drivers of the regional economy, contributing \$9.145 billion or 80.4% of the gross regional product (in 2012).

Compared to the other 55 Regional Development Australia regions - where a lower ranking indicates a higher performance - the Goldfields–Esperance region is:

- 19th for natural resources
- 22nd for labour market efficiency
- 33rd for economic fundamentals
- 41st for human capital
- 50th for business sophistication
- 55th for infrastructure and essential services

(As ranked by the Regional Australia Institute.)

For the regional vision to be achieved and in order to improve the low performance of the region when compared to other regions, improved regional telecommunications are fundamentally important and cannot be overstated.

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Introductory Comments

Access to the internet is a basic human right as declared in 2012 by the United Nations Human Rights Council. Further to this, in 2014 the United Nations resolution A/HRC/26/13 called on all states to 'promote and facilitate access to the internet' as well as to 'promote digital literacy and to facilitate access to information on the internet'.

Telecommunications and internet access has proven to have a profound impact across all aspects of life for communities and individuals. Throughout the preparation of this submission there was a general theme that was heard time and again - people in regional and remote communities feel disadvantaged because of a lack of access to quality connection to the internet and mobile phone communications, specifically noting service, reliability, connection, price and data limits. The more remote the community, the more pronounced this level of disadvantage was felt. The level of disadvantage was expressed by businesses, farmers, miners, individuals, as well as whole communities. This is not surprising when you consider that internet and mobile connection has the ability to impact on:

- social wellbeing
- economic and employment opportunities
- education and training outcomes
- access to services
- cultural connections
- safety.

When there is quality access these things are taken for granted, however, within the Goldfields-Esperance region there remains a digital divide which is quite pronounced and is far greater than in metropolitan areas.

New digital infrastructure is required to allow miners, farmers and businesses to more generally maximise economic opportunities within the region. Without this infrastructure, investment and economic opportunities will be lost and businesses will relocate to the cities to capitalise on better communication technologies. This will continue to hurt regional economies.

Providing digital infrastructure alone will not close the digital divide as many people in rural, remote and Indigenous communities remain digitally illiterate. Education is required to help people and communities to understand, embrace and utilise this technology. A concerted approach from Government, working together with local organisations and communities, is required to improve digital literacy levels across regional and remote Australia.

As many government agencies continue to move to online servicing, the issue of having access to quality, affordable and reliable telecommunications becomes even more pronounced. If access to the internet and mobile connection does not rapidly improve, people in remote and very remote communities will be unable to access service provision and the level of disadvantage will continue to grow.

The importance of developing telecommunications capacity in regional, remote and very remote communities cannot be overstated!

Responses to Questions

QUESTION 1

Do people in regional Australia believe that their reliance on telecommunications differs from those in urban areas? How does it differ and can you provide examples?

As noted in the issues paper the nature of demand for telecommunications services has changed significantly since the 2011-2012 review. Although these shifts in demand have no doubt occurred Australia-wide, the prevalence and nature of the shift has had a profound effect on regional Australia.

Of specific note are:

- **The increased adoption of e-commerce and formation of new online businesses**
 In parts of regional Australia where there are significantly smaller population centres, one of the options is for businesses to develop an online presence in order to compete in an increasingly globalised world. For some farmers, developing a second income stream enables them to remain on the farm, they can do this by developing an online 'farm gate'. Other farmers are developing completely separate online businesses allowing them to remain in the region.
- **The increased take-up of services over broadband that were previously only face-to-face, including some education, government and health services**
 Whilst it is preferable to have a choice between receiving face-to-face services or services via broadband, the number of people living in remote and isolated communities within the Goldfields-Esperance region who do not have this choice is growing. The only option these people have is to access some services online. However, as will be stated later in this document, some people don't even have that option as they lack the ability to connect to the internet.
- **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**
 The ever increasing sophistication in both the mining and agricultural sectors is having a pronounced effect on these industries. New applications which can only be accessed via strong internet connection, render farmers, miners, and associated industries fully reliant on internet connectivity to run their businesses competitively.
- **Intensified connectivity over social media**
 The shift to the use of social media is worldwide. For those living in remote communities, social media can be their only form of communication with friends and families. For some who move to the regions to work, social connectedness is vital to ensuring their continued stay in the regions – this leads to lower staff turnover in regional businesses and alleviates the transient nature of some communities. Social connectedness also helps to address mental health issues associated with isolation
- **Shifts in the consumption of entertainment – with much greater take up of video and demand –based content provided over broadband.**
 As this shift occurs the greatest recipients of this change will be those in regional and remote locations. For regional people, their only entertainment option is via online videos and games. People in remote communities cannot go to the movies, or go to their local video or gaming shop, as they don't exist. The availability of online video and gaming is providing a greater choice for people in regional communities who have the internet capability to access them.

Whilst some people in the Goldfields Esperance region have benefited from better telecommunications services, many people in the region still have inadequate internet and/or mobile connection. Their telecommunications services may be subject to frequent drop-outs due to poor connections or latency issues, or the speed of downloading and/or uploading is simply inadequate.

For people living in regional and remote communities whose only access to business services, entertainment and social media, is via the internet, connectedness is vital as other options to access these services may not exist.

QUESTION 2

For those users already connected to an NBN network service, has the service met your expectations?

The answer to this question was an overwhelming no! The best way to answer this question is to provide a farmer's testimonial (50 km north of Esperance) on this issue. This is not an isolated response, there were many other similar testimonials.

'We run a large farming enterprise based on broad acre grains. We employ approximately 8 permanent and up to 8 casual staff at any one time. I have two NBN satellite connections at two of the farms and we run a server at the main farm which supplies a wireless connection from the satellite signal. Our current problems are as follows:

- 1. Having a large amount of casual staff using our data allowance means we need at least 30 gigs of data (peak) to cope with the demand. Staff cannot use Telstra wireless as it is very unreliable and site specific and won't work indoors at all. Without providing an internet connection we would not be able to hold staff as it is their only connection to their families and friends.*
- 2. There is no possibility of downloading movies.*
- 3. There is no possibility of watching You-tube clips due to very slow speeds.*
- 4. On ringing the provider the answer is always that the satellite is full and there is nothing they can do.*
- 5. On enquiring about putting up a large aerial to receive wireless I was informed that 15 gigs was the maximum data I could have, which is not enough.*
- 6. The Australian Tax Office (ATO) wants us to do all our Business Activity Statements (BAS) online. This is untenable due to the slowness of getting onto the ATO portal.*
- 7. I have tried to sponsor employees through the Immigration Department's portal and it always takes multiple attempts to get into the portal which is very frustrating. If I want to ring the Department there can be a two hour hold and then they direct me to go online.*
- 8. I would spend half my internet time waiting for the screens to come up, so consequently I have 3 – 4 jobs on the go at any one time so as to try not to waste time.*
- 9. The ATO wants us to pay all our superannuation payments online. This will be very time consuming.*
- 10. I have no mobile signal in the house. Everyone expects us to have a mobile and consequently I missed the death of my father because I didn't get the message for two days*
- 11. When I engage my computer repairer to fix a problem I am charged double because it takes them so long to negotiate my computer online. They can't believe how I put up with such a slow internet.*
- 12. My data has been reduced from 60 gig unlimited to 30 gig peak and 30 non-peak with little reduction in my monthly fee. They are talking about further restrictions.*

In conclusion we just tend to put up with what we have because that's the way it is but if anyone from the city had to put up with our internet speed then something would be done very quickly.

(Testimonial excerpt from Regional Data Access: Connection to Our Economic Future – South East Premium Wheat Growers Association [SEPWA] 2015)

This is just one of many testimonials indicating the level of frustration and disadvantage regional and rural people are facing. This disadvantage has a direct impact on their business, social interactions, education, access to service provision and general livelihood.

Ngaanyatjarra (NG) Media is an Aboriginal media corporation providing digital radio and television to remote Aboriginal communities in the central lands of Western Australia (covering an area of 250,000 square kilometres). The former Managing Director of NG Media noted that whilst the Australian Government continues to pressure the organisation to develop alternative income streams - and NG Media would like to do so - they are unable to implement strategies to improve their business due to inadequate telecommunications infrastructure. Latency problems are a major issue which directly affects their operations, and connectivity costs are astronomical. These issues need to be addressed or the organisation will continue to be negatively impacted. NG media noted that in order to provide a quality service to communities they need a mix of technologies including fibre, satellite and wireless. This is just one of the organisations within the Goldfields Esperance region which is disadvantaged by the lack of telecommunications infrastructure and hampered by inefficient and ineffective satellite connection.

People living in traditional Aboriginal communities noted that one of the negative impacts on them is the lack of a prepaid option for NBN satellite connection. Without this option people are being automatically disconnected if they don't have the funds to pay their accounts on the due date. Given that these people live in very remote communities, it can take a very long time before they are able to reconnect. A prepaid option would assist in alleviating or removing this barrier for people in remote communities.

QUESTION 3

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?

Satellite is the only choice in remote and rural areas and many people are already connected to the NBN satellite. While satellite is noted as being more reliable than the mobile phone network, it is slow, limited for data download and costly. Some users noted better connection speeds earlier in their use, however, as more subscribers have been connected, performance has dropped considerably. Although it has been stated that data connection speeds are set to improve by the scheduled launch of two more NBN satellites in the near future, it should be noted that the growing demand for regional data use in all areas (health, education, e-government, etc.) has the potential to lead to a similar overload situation within 2 to 3 years of this launch. Those who are connected or considering connecting to the NBN satellite are genuinely concerned about this probability.

A recent survey conducted by SEPWA asked farmers to rate from 1 (low) to 10 (high) the following aspects of their current internet provider: connection, reliability, and service. NBN satellite rated below that of mobile network on connection speed and slightly higher on reliability and service. However even with reliability, where satellite rated the highest, it still only had an average rating of 5.15 out of 10, slightly above a pass mark. However, with regard to service, satellite rated 4.8 and a dismal 3.85 for connection speed. This strongly indicates that survey participants are not satisfied with their NBN satellite connection.

To increase satisfaction with the NBN satellite connection, survey participants wanted to see improvements in: speed, service, data (upload & download), cost and mobility.

34% of respondents to the survey were linked to the internet via NBN satellite, with nearly 60% choosing the Telstra mobile network. Below is a brief summary of the results for both:

SATISFACTION RATING	NBN SATELLITE	MOBILE NETWORK
Connection speed	3.85	4.4
Reliability	5.15	4.63
Service	4.8	4.49

When respondents were asked to comment on whether they believed the current internet situation made them feel disadvantaged, a massive 88.5% answered yes. The response as to why where far reaching, however they mainly fit into the following categories: safety, limited access to new technology (due to connectivity, reliability, and connection speeds), value for money, effects on education, and restricted business management.

Businesses currently connected via NBN satellite noted that it is very difficult to provide real time education and training to their employees due to latency issues with the technology, as well as slow upload speeds. This is a particular issue for more remote businesses where the option of sending staff to the city to receive training is mostly cost prohibitive. For businesses where employees are in various locations, this problem became more pronounced for day-to-day issues such as staff meetings. These businesses found it difficult to communicate effectively with staff via the slow and ineffective satellite broadband connection.

Given that the vast majority of the Goldfields Esperance region will be serviced via satellite there is much concern about access, data limits and data rationing, speed, reliability and price. These factors will limit productivity and dampen economic activity across the region which is of great concern.

Many people are not aware of what type of connection they will get when the NBN connection comes to their area – whether the connection will be via fibre or satellite. At times, even specialists in the field were not able to provide information on the future connections by NBN in their area. There seems to be a growing level of frustration within the community due to a perceived lack of communication, real or otherwise, by NBN. It was frequently noted that getting information from the NBN was difficult and frustrating.

QUESTION 4

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?

A major issue identified by SEPWA in the 2015 document, *Regional Data Access: Connection to our Economic Future*, is related to price and the virtual monopoly situation that exists in regional fibre optics in Western Australia. The current fibre optic network in the regions is primarily owned by Telstra, which hosts data backhaul from regional locations. Between, and within, major population centres there are alternative providers of fibre optics. These multiple service providers within major population centres ensures competition which provides downward pressure on price and data allowances at the wholesale level.

Although the following example is not within the Goldfields Esperance region, it is worth noting. The following figures are quoted from a telecommunications service provider based in Albany:

1. To purchase wholesale data access in Albany (using Telstra backhaul optic fibre):
 - 30 Mbit per month - Symmetric upload and download speed (commercial link)
 - \$9,000 per month
2. To purchase wholesale data access in Katanning at an alternate service providers optic fibre:
 - 100 Mbit per month - Symmetric upload and download speed (commercial link)
 - \$2,000 per month

These figures clearly show that where there is competition there is significant downward pressure on price. Where there is competition, communities are able to receive more than three times the data amount for about 20% of the price. This stark reality shows that where there is a single fibre optic provider, usually Telstra, prices significantly increase. It is hoped that the coming of NBN will introduce further competition in the wholesale backhaul market. However, it must be remembered that NBN is not designated to deliver fibre optic to regional locations outside major towns as these customers will be serviced by NBN satellite. Hence NBN will only improve connectedness in regional population centres, not in rural, remote and very remote areas.

There is also concern and confusion regarding greenfield developments within the region where the NBN will not be connected for some time. The legislation states that greenfield developments must be serviced via optic fibre and so copper wire is not being laid. How do these new development sites connect into the system? How can they connect into the backhaul fibre when it does not currently exist? These questions have not been resolved and are causing concern and uncertainty with relation to these developments. At the time of writing these questions had still not been answered by NBN.

QUESTION 5

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

The Federal Government has partnered effectively with the Western Australian Government in rolling out the black spot program which is addressing areas of the State's highways with no mobile coverage. Long stretches of these highways still have no access to mobile coverage, which has both a social and an economic impact on the Goldfields Esperance region. In fact, there are still whole communities that do not have access to mobile coverage.

Some considerations that need to be recognised in future efforts to improve coverage include:

Bandwidth

For communities with a lot of passing traffic, bandwidth needs to be able to cater for not only the residents but also for peak periods of demand when tourists and visitors pass through the community. An example of this situation occurs in Eucla. Eucla is a key entry point into the State of Western Australia, and as such, there is heavy traffic through the town. Residents in Eucla complain that at peak times there is no capacity on the wireless telecommunication network for them to conduct their business as it shuts down when there are too many users. When asked to define when peak periods were, the response was breakfast, lunch and dinner, through to when travellers go to bed! These times coincide with when travellers would typically stop and rest and use their digital devices. This is an unacceptable outcome for residents and travellers alike, but there seems to be little in the way of providing a solution or improving the outcome for this community.

Service Providers and Lack of Competition

Although the blackspot program has improved mobile coverage on many of the main highways, it was noted time and time again that unless people are with Telstra they can't get any service at all on some of the main roads in Western Australia. For example, travelling from Eucla to Norseman (710kms), although patchy at times, mobile service is available the entire way for Telstra customers. However, if customers are with any other provider, they will not get reception for the entire distance.

Where there is only one service provider, one of the most common complaints was pricing. Given the lack of market force, or the monopoly situation that exists in regional and remote areas in Australia, prices are substantially greater for significantly lower data availability. Again in Eucla, where Telstra is the only option, customers can get 15GB for \$125 or 25GB \$168. Farmers near Esperance have been frustrated by similar experiences. Compare this to costs in urban centres where Telstra broadband packages are approximately \$90 for 200GB. So whilst urban users pay \$0.45 per GB, regional users can pay up to \$6.72 per GB, nearly 15 times the price paid by urban users – who also have access to higher speeds, greater reliability, and a faster service response time.

Safety

In some remote communities where mobile coverage was recently delivered it was noted that safety has improved. Being connected within the community and whilst travelling between communities saw an increase in both real and perceived levels of safety.

One person noted that there were two separate and very serious car accidents recently. On both occasions the accident occurred where there was no mobile coverage and those involved had to wait for over an hour before a passing car provided assistance.

Poor mobile network coverage within the region and on farming properties can make it more difficult to ensure a safe work environment. Another safety issue to be considered is the many school children who travel vast distances on school buses.

Culture

It is interesting to note that the provision of mobile access to very remote Aboriginal communities has actually helped to preserve and promote culture. Better communication between families and communities provides opportunities for cultural knowledge and heritage to be shared more easily. The increased ability to communicate has improved social connections within and between communities and has strengthened language and culture.

With more Government services being provided online, mobile coverage to remote communities is going to be essential. Recently some remote and very remote aboriginal communities were provided with mobile coverage and the benefits included:

- Patient database systems actually worked (doesn't work on satellite due to latency issues and continually timing out)
- Police brief systems actually worked (doesn't work on satellite due to latency issues and continually timing out)
- Justice briefings – remote court hearings removed the need for long commutes for the accused in the back of police vans to take them to court hearings. Hearings can now be delivered in the local police station and connected to the courts via mobile technology
- Having easier access to government services
- Increased exposure to opportunities and different cultures outside their communities
- Increased education services.

Tjuntjuntjara community, possibly the most remote Aboriginal community in Australia, has a population of 200 with no mobile coverage. Some of the younger people are asking why they cannot use mobile phones. This situation will affect their social experiences and job opportunities. Having effective communications in remote and very remote aboriginal communities is critical to the long term sustainability of these communities.

Social

A story that illustrates the real and devastating impact that a lack of mobile coverage can have is as follows:

Because there was no mobile coverage, one person didn't receive several messages notifying them that their parent was very ill and on their death-bed. By the time the notification was received, their parent had passed away and they had missed the opportunity to say their final goodbye. Another person noted that it was only when they entered into a mobile coverage area that they received notification (days after the fact) of their loved ones passing.

Education and Training

The lack of mobile coverage has an impact on education and training through students:

- • not being able to participate in phone hook-ups
- • timing out of programs due to latency and speed issues with satellite
- • not being able to download all of their materials due to limited download data availability, or going over their data limits as set by NBN satellite.

Economic

The lack of mobile coverage is having an impact upon the region's economy generally. Businesses noted that not being able to stay in contact with employees and missing critical calls due to limited mobile coverage had a negative effect on productivity. Businesses also stated that due to lack of mobile coverage, some had purchased new machinery only to find that they can only use a fraction of its potential, whilst some had to continue to use old technology which meant they were not able to compete effectively for jobs.

QUESTION 6**What opportunities do the mobile network industry see for extending coverage in regional Australia and increasing investment in mobile networks**

Not applicable.

QUESTION 7**Do you have any views on co-investment approaches that might help to improve the broadband technology outcome in your area?**

Over the past few years the Federal Government has been partnering with the Western Australian Government and Telstra to provide mobile phone towers for black spots across the State's highways. This approach seems to be providing a positive solution to increase mobile phone coverage (although only for those connected via Telstra) and should be continued.

Regarding other co-investment approaches, market based approaches do not work well where there are low population centres which is the norm in remote and regional locations. In 2012 the United Nations Human Rights Council unanimously declared that access to the internet was a basic human right. In 2014 the United Nations passed a resolution calling on all states (nations) to 'promote and facilitate access to the internet' as well as to 'promote digital literacy and facilitate access to information on the internet'. As such, it is the responsibility of the Australian Government to provide access to the internet and promote digital literacy to all Australians.

RDAGE would be concerned if the Australian Government introduced cost shifting measures or removed any subsidisation that would impose a further cost burden to those in regional, remote and very remote communities.

QUESTION 8**How might new applications and services that utilise mobile networks for voice and data transform the way you live and work?**

Poor internet connection is having a negative impact on the farming community within the region. Technologies such as precision agriculture can offer WA grain farmer's significant efficiency gains going forward. Poor mobile coverage is preventing the agricultural industry from maximising their machinery, instruments and monitoring systems which means that they are not able to maximise food production. It has been noted that as technology improves at an ever increasing pace, many Australian farmers are at a greater disadvantage because they are not able to maximise these new technologies.

The mining industry in Australia is generally very innovative. However mines within our region, which are remote or very remote, stated that they did not have the luxury to even consider recent innovations due to poor and unreliable communication solutions. There is not enough bandwidth and too many outages for them to even consider automation. Mining companies are currently struggling to keep up with required bandwidth to deliver basic services to their residential employees for their smart phones, laptops, ipads, movie downloads etc.

As new applications and services continue to be developed and become accessible via the internet, especially those that utilise mobile networks, remote and very remote communities will become more disadvantaged if they do not have access to mobile networks. As stated previously this will continue to have negative impacts on health, education, employment, economic development, social development, and living standards in general.

QUESTION 9

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?

The Paupiyala Tjarutja Aboriginal Corporation (PTAC) at Tjuntjuntjara community provide a Community Resource Centre (old telecentre), health care services, a community store and roadhouse, job services, some local school programs and other services. The lack of bandwidth has serious implications for all of their services and is also stopping them from investigating further economic opportunities. Another issue facing this very remote community is that whenever an employee leaves, which happens regularly from this very remote community, the NBN connection cannot be rolled over to the next employee but must be cancelled and reapplied for by the next employee. When a new staff member applies for connection via the NBN, the average turnaround time is three months. With high staff turnover rates in very remote communities, this is an unacceptable situation and contributes to an increasing turnover rate as people are unwilling to wait so long for telecommunications connections.

The situation has become so difficult in Tjuntjunjara that they are investigating the possibility of providing their own 4G LTE technology. They are currently investigating the cost of the required tower and base station. If PTAC are able to provide their own telecommunications service it will also provide the entire community with mobile access and internet coverage at a cheaper cost than the NBN satellite service.

A Kalgoorlie businessman, has over the past two years invested time and money developing two separate businesses - one is a Cloud video-conferencing company and the other, a Cloud WIFI data servicing company. The Cloud WIFI data servicing company is being impacted by poor performance due to slow upload speeds. However, the Cloud video-conferencing business had to be shut down due to slow upload speeds, the high level of drop outs and poor connections. These issues occurred as a direct result of inadequate telecommunications infrastructure available in town.

Hospitals have generally adopted the use of mobile phones as standard for staff and most crisis responses are coordinated via mobile phones. However Kalgoorlie hospital found that due to poor mobile coverage around town and within the hospital having staff connected via mobile phone was problematic and so they have moved back to older technology.

Poor and patchy mobile coverage has meant that on-call staff must stay home as the hospital has to use landlines to contact them. Within the hospital, staff have had to go back to using pagers as the mobile coverage within the hospital was so unreliable. Neither of these solutions are ideal nor satisfactory, however not doing so could have a detrimental impact upon patients and their care.

Farmers in the Esperance Port zone cite poor internet connection and thus limited access to new technology as directly limiting their ability to maximise production on their land. The technology inherent in modern farming machinery now, has become, and continues to become more and more reliant upon internet access. For farmers with poor connectivity, this means that the adoption rate of new technology is constrained, which impacts significantly on productivity rates.

An issue identified by a mining operation was the challenge of getting a mobile phone solution because the 'major duopoly' providers did not want to operate over the other service provider's infrastructure (although technically and legally possible). The reason that this mine operation needed to find a solution, was because their satellite-based mobile service had major performance issues associated with a lack of bandwidth. Another mining operation currently in pre-feasibility stage is exploring satellite (non-NBN) based communication systems. However even at this early stage it was found to be too expensive and has not worked to required standards - it is too slow, had too many latency issues, and many breakdowns. The issue of a lack of bandwidth was raised multiple times by miners and remote communities.

A local niche business which delivers Internet Protocol (IP) communications to businesses in remote and very remote locations raised two very concerning trends. The first was that the services to remote and very remote communities and businesses, under the Universal Service Obligation, is going backwards and that the outcome for these communities and businesses is worse now than it was 20 years ago. The second was that the telecommunications infrastructure that currently exists in remote locations is not being maintained and is falling into disrepair. The existing infrastructure could be utilised by third parties but due to poor maintenance, this is no longer viable.

QUESTION 9 CONTINUED

A mine service organisation providing telecommunications solutions to mine sites identified native title processes as a massive barrier. The native title process can take up to two years to deliver an outcome to a request to build a tower on a small parcel of land. This time delay precludes carriers from building towers for microwave networks as a solution to the needs of mines. These delays results in lesser solutions being deployed as a two year turnaround time is unfeasible.

It has also been suggested that capacity issues in regional communities aren't being addressed because 'the NBN is coming'. This excuse is being used by service providers in Kalgoorlie where they already have slow speeds due to overloading and a lack of ports to connect new customers to. However, because 'the NBN is coming' the very real issues which have serious implications for the community are not being addressed. This situation is limiting growth in business and impacting people's ability to access core services.

QUESTION 10

What communication functions (e.g. speed, mobility, data, etc.) would best suit your needs, noting the limitations of each technology (e.g. mobile, wireless, satellite, fibre)?

Businesses believe that it would be very hard to operate with anything less than ADSL 2 as a bare minimum. With regard to the amount of data, latency, and mobility business want, as a minimum requirement:

- Speed – 20Mbps download and 2.5Mbps upload (no location in the region indicated that they were getting anywhere near this upload speed)
- Data – minimum 100GB
- Latency – as reduced as possible
- Mobility – high

The above is a requirement for general businesses. Specialised businesses, such as event management and knowledge industries are seeking speeds of 50Mbps as a minimum for both down and up loads, and often require faster speeds and significantly more data allowance than noted here. In Kalgoorlie the average upload speed (ADSL 2) is currently 0.8Mbps, well below the maximum upload speed. It should also be noted that upload speeds have not increased much in Australia for the last several years. While download speeds are increasing upload speeds have effectively stagnated. The discrepancy between upload and download speeds are enormous and seem to be growing wider. This is having a direct impact on businesses in regional areas.

A business in Kalgoorlie which conducts intra and inter-regional, interstate and international business, identified that if communications infrastructure were not improved in the next two years, he would have to relocate to a capital city. He identified the 'appalling' upload speeds as a major contributing factor. He made an important observation that 'poor upload speeds were forcing regional Australia to be consumers not providers and contributors'. This comment was specifically related to knowledge based industries but could also be applied to more general business and activities.

The slow satellite upload speeds experienced by people living in regional Australia create a barrier to participating in and contributing to, an increasingly connected world. This will ultimately result in regional people feeling even more isolated.

Businesses and residents located in remote communities noted that the current 15GB allowance was a major barrier, commenting that it effected many areas of their daily life, including but not limited to: education, health and business development.

The issue of latency was also a very common theme mentioned by those who are connected via satellite. This, once again, is having an impact upon training and education, employment, and social and economic opportunities.

People also stated that mobility was extremely limiting and suggested that perhaps mixed technology was required to deliver better mobility to people in remote and very remote communities.

QUESTION 11

Do we need to continue to guarantee the standard telephone service for all (or only some) consumers, and if so, to what extent?

A minimum level of service needs to be provided for all, whether that is a standard telephone service or some other form of communication. All Australians should have the basic ability to be connected. When ascertaining what the standards are for connectivity the following aspects should be considered:

- Accessibility
- Connection
- Reliability
- Service
- Price.

There are some Indigenous communities within the Goldfields Esperance region where the only mode of communication to the outside world is via a single public telephone. These public telephones should not be removed from communities unless a reliable alternative mode of communication is provided to ensure people living in these locations are not further disadvantaged.

QUESTION 12

Are there new or other services, the availability of which should be underpinned by consumer safeguards?

Not applicable.

QUESTION 13

What standards should apply to your services? How might they best be enforced?

Not applicable.