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Ms Catherine Bright
Committee Secretariat
House of Representatives Standing Committee
Inquiry into Infrastructure and the Development of Australia's Regional Areas
Parliament House
Canberra

Dear Ms Bright,

Please find attached Telstra's submission to the Inquiry into Infrastructure and the Development of Australia's Regional Areas.

As discussed Telstra would be pleased to appear before the committee to address the issues raised in this submission or address other relevant issues that the Committee wishes to raise. If you have any queries please do not hesitate to contact me on 02 6208 0700.

Yours sincerely

David Higginbottom

Inquiry Into Infrastructure and the Development of Australia's Regional Areas

Telstra Submission

1.1 Background

Telstra is committed to providing new and improving services to rural and remote Australia. Of the $10 billion Telstra has invested outside capital cities since 1985, some $3.7 billion has been directed to the provision and maintenance of infrastructure to service rural and remote customers. Telstra's investment per customer in areas outside capital cities is nearly 50% more than for metropolitan customers.

In looking at telephone ownership levels, the gap between city and regional users has been closing over time. Telstra commissioned Roy Morgan Research to monitor household telephone penetration levels over the period June 1989 to April 1997. The surveys showed that in 1989, 93% of capital city households had access to a telephone service, compared to 87% of households in rural areas and other towns. By April 1997, this gap had closed to a 3% difference - 96% of households in capital cities had access to a telephone service, compared to 93% in rural areas.

Compared to a number of other selected countries, 1997 data indicates that household telephone ownership levels in Australia on average, are comparable or higher than those in other countries.[1]

Table 1: Household Telephone Penetration, 1997

	Australia	Canada	New Zealand	United Kingdom	United States
National Average	96.6%	98.7% (excludes Yukon and NW Territories remote customers)	86%	93%	93.9%
Rural Average	94.8%	n/a	n/a	n/a	85%

With current market developments in a range of new access technologies, including satellite, radio and mobile technologies, arguably rural and regional consumers now have a wider choice of service providers and access to a range of competing technologies.

1.2 The Universal Service Obligation (USO

The relatively high levels of telephone ownership in Australia have been delivered through a combination of competitive service delivery and government mandated delivery in non-commercial areas, that is the Universal Service Obligation (USO).

The USO arrangements set out in the Telecommunications Act ensure that in the absence of commercial delivery, every Australian can access a standard telephone service, wherever they reside or carry on business. The USO also includes payphones and prescribed carriage services. Telstra is currently the declared Universal Service Provider.

[1] A report prepared for Telstra by Networks Economics Consulting Group, "*Telecommunications Services in the Bush: Are Rural Consumers Getting a Raw Deal? A Comparison of Rural Telecommunications Services in Australia with Urban Levels of Service in Canada, New Zealand, the United Kingdom and the United States*.", 1998.

Telstra's USO Plan sets out the minimum level of service that it will provide nationally. This is currently defined as a voice grade network providing a minimum transmission speed of 2400 bps. In addition, the standard telephone service provided under the Plan has the following features:

- access to the public switched telephone network
- a unique telephone number (ie no party lines)
- ability to make and receive national and international calls
- 24 hour access to emergency services
- 24 hour access to operators assisted services such as free Directory Assistance, reverse charge calling and service fault reporting
- itemised billing including local calls when requested by the customer.

The Government has recently included access to ISDN in USO arrangements, and for those customers who cannot access ISDN, access to a 64 kbs satellite downlink.

1.3 Universal Service Cap Act 1999

Telstra is concerned that the effects of *Telecommunications Laws Amendment (Universal Service (Cap) Act) 1999* (" the Cap Act"), inhibit, rather than promote market based incentives for USO delivery and create an uncertain investment environment, at least in the interim, pending a new USO policy framework.

Key amongst Telstra's concerns are that the effect of the Cap Act overrides established policy principles under which Telstra as the national USO provider, has made investments in regional Australia. Rather than minimise industry instability, Telstra believes the Cap Act will in fact lead to even greater uncertainty for investors in the telecommunications industry, as to how costs for past and future infrastructure investments will be treated.

The effect of the Cap Act is to impose on Telstra, costs not incurred by the customers of other carriers. The Cap Act expressly limits the contribution of other carriers operating in Australia, whilst leaving Telstra's liabilities open ended to continue meeting the obligation to supply and fund the USO. The resultant shortfall between the actual costs of service provision incurred by Telstra and the capped levy contributions required from other participating carriers will have to be funded from Telstra cashflows and retained earnings.

Telstra has called on the Government to adopt, as a minimum, a higher level of future industry funding for the Universal Service Obligation, in line with the draft assessment of its independent regulator, the Australian Communications Authority (ACA). This assessment is more than double the USO cap.

1.4 Digital Data and Higher Bandwidth Services

A perception of rural disadvantage relates to access to higher bandwidth services, which can be used for Internet, e-mail and other data applications. The recent Digital Data Review by the Australian Communications Authority (ACA) highlighted that different data transmission rates are available across different parts of the Customer Access Network[2] (CAN).

After thorough analysis, the ACA concluded that the costs of upgrading the CAN to ensure uniform high speed internet access would outweigh the benefits. Telstra's own cost/benefit analysis substantiates this conclusion, and Telstra believes that the competitive market is delivering alternative high bandwidth products to rural and regional markets. For example, Optus has invested in satellite technology to deliver higher bandwidth services to rural Australia. For its part, Telstra is launching in the third quarter 1999, a 64 kbs satellite offering, that will be broadly comparable to ISDN.

Investment in higher bandwidth services are occurring in a competitive market, and irrespective of minimum service standards prescribed under USO arrangements. On balance, telecommunications reform has opened up access to a range of new services and competing service providers operating across geographic markets.

In considering these issues it is important to note that Australian consumers, including rural consumers, have substantially greater opportunity than their counterparts overseas to access the Internet using high-speed services. For example, ISDN links are significantly more widely available in Australia than in at least two other countries for which data are available (see Table 1). Telstra is able to supply ISDN to over 96% of the Australian. The Canadian and US carriers, on the other hand, can only supply ISDN to respectively 70% and 80% of subscribers. In the US, only 27% of the customers served by the NECA local exchange carriers, which typically serve those areas with 20 or fewer customers per square mile, have access to ISDN.

Table 2: ISDN access by population coverage[3]

Australia	Canada	United States
96%	70%	80%

Even more importantly, Australian rural ISDN users do not get charged more than their urban counterparts. In contrast, US charges for ISDN and T1 lines are significantly higher in rural areas, with one study[4] noting a difference of approximately US$1,800 a month for the same service. In New Zealand users in country areas are charged NZ$360 per year more than urban users for ISDN line rental. Telstra, in other words, provides access to ISDN at the same price irrespective of location.

1.5 New Carriers and Service providers

In the telecommunications sector, investment by new carriers and service providers is also driving new opportunities and innovation. Information available from industry development plans and

[2] Australian Communications Authority, *Digital Data Inquiry: Public Inquiry under section 486(1) of the Telecommunications Act 1997*, August 1998

[3] The USO after 1997 – meeting user needs in an open market, Michael Rocke, Telstra. Forum, November 1996; BT. *How can I get ISDN?*, 1998, http://www.isdn.bt.com/whatis/getmain.htm.

[4] 'Telecommunications Services in the Bush, Are Rural Consumers Getting a Raw Deal? A Comparison of Fixed Telecommunications Services in Rural Australia with Urban Levels of Service and with Service Levels in Canada, New Zealand, the United Kingdom and the United States', Report Prepared for Telstra Corporation, Network Economics Consulting Group, Canberra.

industry analysis indicates that a number of companies are considering development of new facilities and investment in infrastructure that aims to promote competition and innovation in the industry, including specific investments targeted at regional communications markets.

Along with Telstra, 7 other service providers have invested in the recent 1800 Mhz and 800 Mhz spectrum auctions, which will introduce additional service providers in the regional digital mobiles market. Telstra is also aware that other carriers have specific regional expansion plans such as Horizon, which is targeting regional markets, AAPT's regional cable and points of presence, and Primus with 17 regional points of presence.

1.6 Industry Employment Opportunities

Telstra acknowledges that there is concern about the impact of job losses in regional Australia. Again this needs to be seen in the context of overall Telstra investment in regional areas, and employment opportunities created by investment from the communications sector as a whole. As at the end of June 1998, 76% of Telstra's workforce was located in metropolitan areas compared to 23% in regional areas. In terms of employment reductions over the period December 1996 to August 1998, approximately 80% of total employment reductions have occurred in metropolitan areas, compared to around 20% in country areas.

Overall employment in the communications sector (telecommunications, postal and courier services) has been growing at 4.6% per annum compared to employment growth of 2.4% per annum for the rest of the economy over the past 5 years.[5] So whilst Telstra's employment has been declining, opportunities in the sector are expanding.

1.7 Rural & Remote traineeship program

Under the Rural & Remote traineeship program announced late last year, Telstra is offering 100 traineeships with the company in rural and remote areas over the next 12 to 18 months. The traineeship program will enable more young Australians to live and work in their home communities. It continues Telstra's commitment to improve service levels in the bush, and reinforces our strong tradition of looking after the interests of rural and remote Australia.

Successful applicants will receive theory training in major provincial areas and on-the-job training, where possible, in their local area. They will attain nationally recognised competencies to enable, as a minimum, qualifications to ACF III standard, Certificate II and III in telecommunications (cabling) over a three year period.

[5] Australian Bureau of Statistics, Labour Force Series, February 1993-98.

2. Telstra's Network

The Telstra telecommunications network is one of the worlds most advanced and reliable communications networks. Today a range of telecommunications products provided by Telstra is made available to all customers with communications needs.

2.1 National Network

The Australian national telecommunications network (PSTN) provides world-class telecommunications services to the world's largest populated island. Every person in Australia has access to fully automatic, high-quality telecommunications services with direct dial facilities to the international network.

The Future Mode of Operation (FMO) project, which has upgraded the network by replacing all analogue switching equipment with digital switches has been completed. Telstra now provides a digital connection from the originating to the terminating exchange. This task required management of capital expenditure of around $3.3B over three years. Considerable benefits have been achieved as a result of this investment, apart from the accepted technological advantages of the digital conversion:

- improved quality of service to customers;
- an improved operating environment for the network company; and
- an expanded range of facilities;

Nationally, Telstra has installed and maintains a long distance network which utilises the technologies of optical fibre, microwave radio and coaxial cable. The continued extension of digital technology and optical fibre pathways, which provides the basis for delivering the new generation of Broadband services into the home and office, gives Australians one of the world's most modern telecommunications networks.

2.2 Access Renewal

The Access Renewal Programme is Telstra's multi million-dollar investment in the Customer Access Network. Telstra plans to spend $730 million on enhancing, upgrading and rehabilitating the Customer Access Network in the next financial year to ensure that its 10.3 million commercial and consumer customers continue to get world class access to the increasing array of voice, data and broadband services that are available as computer and telecommunications technologies converge. The programme incorporates the existing CAN2001 and CAN for Olympic Games projects as well as the development of the Future Mode of Service.

Access Renewal is Telstra's very clear demonstration that high service standards and access to world class telecommunications continues to be a priority within a deregulated and privatised Telstra. Telstra has always maintained that privatisation would mean customers would get better service and Access Renewal is a key strategy to achieve service excellence for small business and residential customers across Australia.

Access Renewal is all about prioritisation and a proactive response to the changing telecommunications needs of all Australians. It is a deliberate shift in emphasis for the Commercial and Consumer Capital Programme. The emphasis is on anticipating needs and catering for the

future, but with a clear and well-defined focus on constantly improving service levels for today's customer.

Access Renewal has been designed with a number of primary objectives and these include:

- replacing and rehabilitating old and fault prone plant
- simultaneously increasing capacity to meet growth
- improving capability to provide for future data working
- changing the CAN architecture to facilitate easy rearrangement and dedication
- Rehabilitating areas of higher fault rates and building:
  - a network that is resilient to the weather
  - capacity in areas where demand for growth is greatest
  - capability into the customer access network – to provide access to convergent technologies.

2.3 Rural Telephony

Telstra has employed a range of technologies to provide services to rural and remote customers. The transmission systems include single channel and small capacity multi-circuit radio systems, Analogue Radio Concentrator Systems, Digital Radio Concentrator Systems (DRCS), High Capacity Digital Radio Concentrator Systems (HCRC), Satellite and cable.

Satellite technologies are presently undergoing significant improvements both in terms of functionality and technology cost, and over the next two to three years could very well offer cost effective solutions for the alternative delivery of high speed data, facsimile and Internet services. Telstra is at present introducing new satellite delivery platforms which will be used to complement and supplement existing radio based infrastructure. The challenge for Telstra is to establish and maintain the best and most efficient basket of technologies and then, determined by factors such as customer density, geographic terrain and customer usage, to deploy the most appropriate technology or mix of technologies for any given situation.

2.4 Remote Telephony via Satellite

Scientific Atlanta DAMA (Demand Assigned Multiple Access) system has been selected as the platform for provision of telephone quality telephony services. The telephony service meets the full licence conditions requirements. The Scientific Atlanta system allows data access speeds of 14.4kb/s and up to 28.8kb/s with upgrade, and is targeted at voice/fax/dial up data applications.

Telstra's digital satellite solution aims to reduce connection times and extend phone, fax and basic data to remote areas. More than 1,000 national services have been targeted for completion by 2003.

This satellite solution will help overcome many obstacles experienced in areas without roads, electricity or water.

2.5 High Speed Data via Satellite

Hughes DirecPC technology will be launched in August 1999 under the name **of BigPond Advance Satellite Internet Service**. This service has both domestic and business applications. For domestic internet access applications the download rates are up to 400kb/s.

The service will be available in all mainland areas, including Tasmania and this will be the first time that a broadband footprint has been available across all Australia. The service is expected to attract users in areas not supported by Bigpond cable. This includes areas of capital cities such as Sydney and Melbourne as well as regional and remote areas. This service will also provide services to the remaining 4% of the mainland and Tasmanian population who do not have access to ISDN.

The service is asymmetrical and uses the satellite connection for the down channel (at speeds up to 400kbps) and the PSTN for the low speed backchannel. This is ideally suited to Internet usage.

"Push" technology is also used to automatically deliver "pages" that have been subscribed to by the consumer. The customer does not require any connection to the PSTN to receive these “pages”, significantly reducing the cost of the service.

2.6 Cellular Services - MobileNet

Telstra is investing over A$400M to introduce CDMA (Code Division Multiple Access) across Australia. Further investment will be made to expand capacity and introduce new services consistent with network growth. The rollout of the CDMA network will provide a service that meets the requirements of our regional and rural customers and will minimise the impact of the analogue closure.

Telstra is the only carrier building a national CDMA network, and we are committed to ensuring that the network's coverage and performance is of an extremely high standard. CDMA will provide customers with a high quality replacement network with not only comparable coverage to the existing analogue network, but also additional features not currently available, including security to protect against voice eavesdropping, calling number display (CND) and in the future, text messaging and data and facsimile transmission.

CDMA coverage in regional and rural Australia would extend into many areas beyond where the analogue network was already present. CDMA mobile phone network will be extended to include country locations that are currently covered by Telstra's GSM network, but do not have analogue coverage. There are over 100 towns and areas across country Australia that are covered by Telstra's GSM that have no analogue coverage, Telstra plans to rollout into these areas with CDMA commencing early 2000.

Following the complete rollout of the coverage in 2000, CDMA coverage is expected to reach over 95 per cent of the Australian population, making Telstra's CDMA network one of the biggest, by area, in the world.

Telstra Plans to commercially launch the new network later this year across major metropolitan areas, followed by a rapid introduction in other areas with current Analogue coverage.
The timing of the rollout will be coordinated with the phase out of the analogue network.
To minimise the impact of the analogue closure, customers in rural areas covered by the analogue network will be encouraged to upgrade their phone to a "dual mode" CDMA handset well before the analogue network closes in the relevant areas.

2.7 Conclusion

Telstra has prepared this submission to outline Telstra current and ongoing commitment to regional areas.

As stated previously:

- Telstra's investment per customer in areas outside capital cities is nearly 50% more than for metropolitan customers.

- Telephone ownership levels have been increasing over time, with the gap between city and regional users telephone ownership levels narrowing.

- Telstra is introducing new and innovative services to provide additional or improved services to regional areas including using satellite services to deliver remote telephony and high speed data services.

- Telstra is investing over $400m to introduce the new CDMA mobile service. This service replaces the analogue service which will close progressively from 1 January 2000.

Telstra remains committed to maintaining the highest service standards for all Australians. Initiatives described above are all evidence of this commitment.