



TSO Regulatory Framework – Submission

October 15th 2007

Background

BayCity Communications Ltd has recently been established as the National Service Operator for IPSTAR satellite broadband in New Zealand. Through exclusive access to the IPSTAR communications satellite, BayCity Communications and its service providers currently deliver broadband services and associated products such as VOIP calling to virtually any location in New Zealand.

Further information can be found at:

www.bccnz.com

This submission has been prepared by BayCity Communications and has the endorsement of its following partner companies.

- IPSTAR
- Farmside Ltd
- BayCity Technologies Ltd
- Wireless Nation

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Executive Summary

The TSO Framework is important to both rural New Zealanders and the whole of New Zealand's telecommunications industry.

Rural access to telecommunication infrastructure is vital to New Zealand's social and local community ideals as well as its economy. The objective of maintaining cost effective rural access and improving the services it delivers was, and still is well founded. The caveat to this is that in using the framework, care must be taken to ensure that individual instruments (such as the Local Services TSO) do not inadvertently create barriers to competition and the entry of new technology or hold back fundamental service improvements.

The Local Services TSO no longer accurately accounts for the range of service options and the growth within the telecommunications industry. It can be seen as counter productive to delivering a range of first class solutions to rural users through not permitting contestability of service.

In addition, alternative, cost effective communication technologies are here today. The TSO could and should be embracing this technology and encouraging the investment in and adoption of technology and services that help connect outlying communities to the greater benefit of all New Zealand.

The current Local Service TSO and its levy structure presents an uneven playing field for emerging telecommunication providers and is no longer serving the needs of rural New Zealand. This needs to be addressed through a fairer funding mechanism with contestability and visibility of all the communication options available.

New Zealand needs a broadband TSO that is independent of the Local Services TSO.

With the rapid and continued growth of key broadband applications such as the internet and other broadband enabled services, New Zealand must move to ensure cost effective broadband access to all areas of the country.

Through existing satellite infrastructure, BayCity Communications can currently deliver a broadband service to virtually anywhere in the country, the only differentiating factor being a comparatively higher initial cost of deployment. If New Zealand was to follow the Australian model of subsidising broadband installation through a TSO mechanism, then broadband could instantly be cost effectively available to everyone.

1. The TSO Framework

The KSO/TSO framework has been an important component of the overall regulatory regime of New Zealand to date. Without such a scheme it is likely that the service quality to rural users would have been worse and potentially prohibitively expensive for individual customers.

For the framework to remain respected and effective in the future, it must now take into account the changing nature of telecommunications technology, the demands of greater New Zealand and the level and breadth of services available in New Zealand.

If the framework does not quickly change to take account of these issues, then a real risk exists that it may become counterproductive in its role and hinder the spread of modern telecommunication services outside of the main urban areas. This is already being seen with the Local Services TSO, where the current subsidy system is creating a barrier to organisations wanting to roll out new solutions that in some, or all aspects, compete with the traditional network. It is unfairly penalizing those that already have a competing product.

Historically the framework has been an effective mechanism for helping ensure the delivery of telephone services to rural New Zealand. However its primary instrument (the Local Service TSO) and associated levy structure have created a strong bias towards the incumbent supplier. Whilst this may have been born of necessity in the early days of the TSO framework and the singular nature of the Local Service TSO, more recently it has not been effective in helping deliver the innovation required to develop New Zealand's overall telecommunications infrastructure.

In today's environment we can see that a number of new telecommunications technologies exist and are capable of providing services beyond what was available at the time of the KSO in 1991 and even the TSO in 2001. Where a few years ago these alternatives did not exist, and nothing was required beyond the Local Service needs, today there are many alternatives and new suppliers that have plenty to offer rural New Zealand. Forcing these companies to operate within rules set down by the provisions of the original KSO does not acknowledge the superior service they could bring.

This growth in supplier technology has been acknowledged in other Government areas such as The Digital Strategy. This document defines "connection" as a necessity and points to satellite among other technologies as a leading contender to provide the required infrastructure to those outside of traditional urban reach. With documents such as this pointing the way, the TSO framework must grow to support a wider set of goals.

The key weakness of the TSO Framework, its inherent rigidity in the face of changing technology, services and demands. Currently only the Local Service TSO is in place (and with only one supplier involved) at a time when up to 50% of New Zealand's business dollar comes from the rural or primary sectors. This grossly underestimates the importance of delivering other services such as broadband and VOIP services to these and the rural community.

2. Purpose and Impact of the Local Services TSO

Whilst the Local Service TSO has continued to ensure that the most basic level of telephony remains as widely available as it was in Dec 2001, it fails to contribute to advancing the interests of rural telecommunications users. Through the current single supplier levy, it is counter productive for competitors to introduce applications such as IP telephony (VOIP) and use new technologies such as satellite broadband to enable these services. Clearly the inability to cost-effectively implement applications using these new technologies has impacted rural telecommunications users and will continue to do so until addressed. Additionally, in its current form, the Local Services TSO does not recognise the growth in the number of rural residences and the geographical spread that has occurred since 2001. Any expected downturn in rural areas has been offset by an increase in lifestyle properties occupied by owners with high net worth and a high expectation of technology and communications access from their homes.

Due to the demand/pull for alternative technology and the entrepreneurial nature of New Zealand, there is now competition in many rural areas and service offerings in areas not currently covered by the Local Service TSO. Accordingly, service availability and affordability would be even better achieved by making the Local Service TSO contestable and giving competitors a level field to play on.

The focus of the Local Service TSO should remain as it currently is - on the delivery of a local residential telephone service. However, just as the means for delivering this service is evolving, so too must the TSO evolve to ensure that the most effective technology and most appropriate service providers are able to supply communication services to rural New Zealand.

3. Availability of Service

The guaranteed availability of the local service is limited to the network of the current TSO local service provider in 2001. With the expansion of remote rural areas such as Lake Brunner and Coleridge, this limitation needs to be addressed as there are alternative network options available to deliver local services and meet today's coverage needs.

The intent behind the current requirements for service availability should, as a minimum, be retained within the Local Service TSO. The actual requirements would then need to be adapted to take account of the fact that some criteria such as “exchange availability” that were previously vital to the delivery of a local service, are no longer vital due to the availability of newer technology. The benefits of expanding coverage further should be fully understood and if considered appropriate implemented. Intuitively benefits would accrue if coverage were expanded in line with the options for service.

In continuing with an ‘improved’ Local Service TSO, information relating to the local service supplied in non-viable areas as seen today (not 2001) should be made publicly available, with provision made for those alternative suppliers that can assist. Information such as this is in the public’s best interest and providers should be accountable for the services they profess to deliver, wherever and whatever they may be.

4. Service Performance

Rather than trying to evaluate the quality of historic measures such as ‘dialup internet’ calls, we suggest that ‘service performance’ needs to investigate whether the total service is ‘fit for need’. In many scenarios ‘dialup internet’ will no longer support the requirements of common web based applications regardless of line quality (e.g. security timeouts with online banking). With the increased complexity, content and commonality of web applications this further questions the suitability of dial-up as a service.

5. TSO Charge

The status quo for setting the TSO charge should not prevail going forward. A new methodology should be prescribed for setting the TSO charge and subsequently implemented. This would take account of the need for contestability and the creation of a level playing field for organisations to compete and ultimately deliver an optimum level of service to rural communities.

If the Local Service TSO is to remain uncontested then a strong case should be made to abolish the TSO charge. With the current level of technology available, satellite and wireless options can deliver a superior local service with greater coverage to the rural community at a price little different from that currently being achieved. Removal of the charges placed on these providers under the current TSO will enable a highly competitive level of service and choice for the rural end-user.

With contestability introduced to the Local Service TSO, net benefits can be expected in areas that are currently considered commercially non-viable due to low population density.

The form that contestability should take needs to be the outcome of careful and independent consideration. A number of options exist

including an auction or tender based arrangement. Alternatively the 'subsidy' could relate to the choice of the end-user, making the market truly open. Naturally some forms of regulation are going to be required to ensure that suppliers maintain a minimum level of quality delivery and that the cost of administration is not prohibitive. We would strongly support a review of the options and the presentation of alternatives for discussion.

6. Eligibility for Service

In the current market we suggest that the Local Service TSO should be confined to the provision of residential services. Whilst a rural business 'subsidy' would obviously be in the interest of business owners, their business needs and goals with regard to telephony and data access are fundamentally different to that of rural residents. Commercially a rural business should be in the position to acquire a basic communication package (phone, web, fax) especially now that a range of satellite and wireless providers can deliver cost effective solutions.

We suggest that the creation of a broadband TSO would better meet the needs of rural business owners. This would enable rural business to take advantages of new e-commerce business practices that are rapidly becoming commonplace such as internet banking, VOIP calling and international trading via the web.

Where a charitable or not-for-profit rural business or organisation exists, their needs for broadband and local service should be met through government grants such as the Broadband Challenge.

A 'hybrid telephone service option' for farmers combining residential and business requirements has merits, but care should be taken on how the option is administered with regard to the offset of subsidy vs. tax deductibility.

7. Free Local Calling

The issue of delivering free local calling only presents issues though the increasing capability of broadband connections to deliver VOIP phones that are not directly linked to a local exchange. This enables providers to deliver low cost or potentially free calling to a much greater range of locations locally, nationally or even internationally. BayCity see this as an opportunity to make local calling less of an issue.

8. Price Deaveraging

Deaveraging will assist the growth of competition, assist in a competitive TSO arrangement and assist companies that have already made, or are planning to make, a significant investment in new telecommunications services. From BayCity Communications' perspective, satellite based services, including VOIP calling, have the same delivery /deployment cost regardless of location, or urban proximity as our investment in

infrastructure (i.e. the satellite access equipment) is complete. Based on this reality, we would not anticipate a detrimental impact on consumers.

9. Upfront Subscription Charges

Upfront charges should be covered in the TSO. This would be beneficial as often the higher perceived charges for rural local service access relate to the cost of infrastructure/deployment and not the cost of on-going service. For example, a cost effective satellite access solution can be offered to the rural community, but this is often not perceived to be the case because of the higher set-up and installation costs of dishes and receiving equipment. However, it should be noted that in many remote locations, the cost of providing and installing the satellite equipment would be significantly less than installing and maintaining a fixed line.

10. TSO Provider Gatekeeper Role

The gatekeeper role is an essential service and needs to be performed in a fully accountable and open manner. Because of the growth of the technologies and organisations potentially delivering an emergency call, the role must be split from the current Local Service TSO and addressed as a separate requirement. Once this requirement has been fully understood, an informed decision can then be made on whether a government or non-government organisation is best suited to perform it.

11. Emergency Calls

The provision of location information relating to emergency calls should be administered by a central organisation aligned to the needs of emergency services, not to the needs of any one telecommunications provider. In providing this it would seem reasonable that the cost of any such service be borne by the carriers in relation to the number of users connected.

The requirement for emergency calls should be prescribed across all telecommunications providers. In line with this, a set of independently approved standards need to be defined to ensure providers meet a set level of performance and service. These standards should then be monitored through regulation to ensure compliance. The determination of any requirements needs to be made with an understanding of the growing VOIP options now available. All VOIP calls (even those using a landline) will require power and therefore the need for battery backup options must be considered. A satellite VOIP solution with battery backup is potentially the most reliable form of communication and would enable contact in scenarios such as earthquake and flood where traditional landline and power connections are likely to be disabled.

12. Lifeline Access

In the case of local service provision via satellite or wireless, lifeline access cost is not negligible. It is not merely a case of maintaining a dormant cable. Often users do not own the equipment that they use for the connection, satellite equipment may be leased and therefore would be

handed back to the supplier upon contract termination. As such we would support a lifeline requirement for all fixed line scenarios, but do not believe that it will be workable for emerging technologies such as satellite and VOIP unless provision was made through the TSO for full and ongoing subsidy of equipment necessary to use the service.

13. Availability and Adoption of Rural Broadband

In the next 3 - 5 years the number of key broadband applications is likely to grow significantly as the existing convergence of mainstream communications and the internet continues. This trend will see a significant growth in the use and features of broadband to facilitate person-to-person communication (IP phones, video and online communities), on-demand entertainment (IPTV, streaming video) and educational services (distance learning).

Broadband will continue to play a key role in the growth of the economy and New Zealand's positioning in the international marketplace. This is becoming increasingly true for countries around the world and stems from an increasing reliance on broadband for the delivery of products and services that have traditionally been delivered via other media. Clear examples of this have been the recent growth of online trading (Trademe is by far the most popular New Zealand based website), music downloads and on-demand digital media, such as streaming the virtual Americas Cup. Online banking now accounts for billions of dollars of online transactions and 4 of New Zealand's top 15 websites.

Without getting business specific, BayCity Communications sees the following key broadband applications becoming vital for individuals and businesses:

- **Communications** - email, VOIP and the convergence of the telephone and the internet. News and live media dissemination
- **Commerce** – Trading and the online economy. Business processes, internet delivery of applications (i.e. the Google model). Banking and other core business services. ASPs and Web 2.0 based business applications
- **Infrastructure** – DHBs, Advanced network
- **Entertainment** – On-demand video, IPTV, music, webcasts and podcasting, social interaction through networking sites such as Facebook and Myspace, online dating.

BayCity Communications has the technology available today to meet rural users' broadband needs and the capacity to grow in line with their demands over the next 3-5 years. Our resellers have been selling satellite broadband services for 4 years and with 1000's of existing customers, are highly qualified to deliver a quality service. The satellite broadband options delivered by BayCity are facilitated by the IPSTAR1 communications satellite - the most advanced communications satellite in the southern hemisphere. From this satellite we are able to provide a

high-speed broadband link (both download and upload) to virtually any part of the country.

Thanks to IPSTAR and individuals within New Zealand, the investment in the IPSTAR infrastructure has already been made. The satellite cost more than \$1 billion dollars to build and launch. This investment enables us to meet the affordability requirements to deliver a core broadband service to anyone in New Zealand. However, the additional one-off deployment cost to individual sites creates both an economic and emotive cost of delivery barrier. Without a broadband TSO, plus the additional costs from the Local Service TSO subsidies, it is questionable whether BayCity Communications or other alternative broadband suppliers (wireless etc) would be able to deliver affordability rural broadband and VOIP calls.

Traditional fixed line or current wireless technology will not meet rural broadband needs in the next 3-5 years due to the limited reach of these technologies. With the addition of satellite broadband the issue of reach is resolved. In addition to the provision of services directly, satellite broadband can be used to back haul a range of alternative technologies such as GSM or WiMAX. This enables us to partner with other organisations to cost effectively extend network and broadband reach.

BayCity Communications strongly supports the introduction of a contestable Broadband TSO that supports satellite, wireless and fixed line suppliers as equals.

A number of subsidy mechanisms could be employed to assist with upgrading rural broadband. With the biggest relative cost hurdle being the rollout and deployment we suggest that the easiest form of subsidy would be a contribution at this level. This would be following the Australian model where satellite installations and equipment to areas outside of traditional DSL coverage are virtually free to the user, through the government's Broadband Guarantee subsidy.

We suggest that a key requirement of any broadband TSO would be its independence from the Local Services TSO. Whilst broadband is capable of delivering service under the Local Services TSO (VOIP services) we believe that the two should remain separate to allow for increased flexibility, customer requirements and new technology. While there can, and will be, an overlap through the delivery of DSL broadband over existing fixed lines, this would only be applicable to 50% of the rural community. Broadband provision to the remaining 50% will require additional infrastructure such as satellite or wireless. To ensure a level playing field this requires a contestable broadband TSO that has no ties to the provision of local services. The complicating factor of broadband-based phone services (VOIP) should be addressed through contestability of the Local Service TSO, rather than the broadband TSO.

The rules suggested in the discussion document for the design of TSO instruments appear to provide a sound framework for considering a broadband TSO. However in the case of broadband, care needs to be taken to avoid the ‘stifling’ of upcoming competition and technology. In a market where technology and delivery options can be expected to grow and change rapidly there must be independent consideration, estimation and assessment of future user needs and future ‘commonplace’ delivery methods.

14. TSO Change Determination and Compliance

We believe that the Commerce Commission is a suitable organisation for determining TSO charges and preserving transparency across suppliers and users. The key aspects in this role are accountability, independence and longevity through political change, all of which the Commerce Commission offers.

15. Extension, Expiry and Review of TSO Instruments

The duration of TSO instruments must take account of the goals and delivery requirements of the individual TSOs. One of the key failings of the Local Service TSO is that it is still based on concepts relevant in 1991. Sixteen years on, the time for change is well and truly with us due to the rapidly changing nature of technology in the telecommunications space. Broadband is going to develop even more quickly. Based on this we would suggest regular reviews (3-5 years) of all TSOs, with the option to expire any TSO at this time.

16. Summary of Response

<p>The TSO Framework</p> <p>The framework has played an important role in the delivery of affordable telecommunications to all New Zealand. However, in today’s environment however it has not been able to adapt quickly enough to new technologies and service options.</p>
<p>Purpose and Impact of the Local Services TSO</p> <p>The Local Services TSO is an important instrument that must evolve to ensure that the most effective technology is supported in the supply of services to rural New Zealand. Currently it is not providing a level playing field.</p>
<p>Availability of Service</p> <p>Availability of service should expand to take account of the changing dynamics of rural New Zealand and be adapted to take account of new delivery technologies and trends in usage.</p>
<p>Service Performance</p> <p>Service performance needs to be updated to take account of current and future expectations.</p>

<p>TSO Charge The current TSO subsidy is creating an ‘uneven playing field’ and not encouraging competition in the delivery of rural services. This should be reviewed, changed to a contestable option, or abolished.</p>
<p>Eligibility for Service The Local Service TSO should be confined to residential customers and a new broadband TSO established for all rural areas.</p>
<p>Upfront Subscription Charges Upfront charges should be included in the TSO due to new technology often having a high deployment cost but similar or lower usage costs.</p>
<p>TSO Provider Gatekeeper Role This is an important role that should be maintained and addressed separately from the Local Services TSO.</p>
<p>Emergency Calls Emergency call provision should be administered by a central, directly aligned, organisation. This organisation would then prescribe a level of service across all providers.</p>
<p>Lifeline Access With the introduction of satellite and VOIP the issue of lifeline access becomes more complicated due to the potential to lease equipment and the lack of a physical connection. This can be averted through a TSO subsidy enabling end user equipment ownership.</p>
<p>Availability and Adoption of Rural Broadband A contestable broadband TSO needs to be established that supports satellite, wireless and fixed line suppliers. It should be independent from the Local Services TSO and support partnerships that enable network expansion and the use of new technologies.</p>
<p>TSO Change Determination and Compliance The Commerce Commission should be used as an accountable and independent determiner of charges.</p>
<p>Extension, Expiry and Review of TSO Instruments Regular reviews of the TSO instruments must take place to ensure that the concepts and information used to determine a TSO remains suitable.</p>