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Standing Committee on Broadband in Rural and Regional Communities
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Symptomatic Telecommunications Problems

In reading through the submissions to your “Are You Connected” survey, there is a very common thread in that the complaints are excessive distance based ADSL when using pair copper resulting in very unsatisfactory Broadband connections, or a lack of mobile coverage.

From my extensive experience in the Australian telecommunications Network Infrastructures, it confounds me that a NSW Government-based Inquiry has been established to ask citizens to report on the inadequateness of their telecommunications and broadcasting infrastructure.

At the Federal level the Regional Telecommunications Review (Dr Glasson) had done a comprehensive report a couple of years ago, and this was preceded by several other reports – (eg Estens etc), all of which do nothing to resolve the problem but merely state that there is a problem – and we all know that – so reports such as these are a total waste of revenue. Since then, the Fed Gov Senate Select Committee has had similar continuing Inquiries with a real purpose – which culminated in the birth of the NBN (phase 1), which then went through a total restructure (NBN phase 2) after the engineers finally got the message (over the sales people) to the Select Committee; that the pair copper and/ie Hybrid Fibre Coax (HFC) access network will not deliver Broadband for the future, and Optical Fibre will (and Radio, in my opinion; is a very poor second solution because it is an “unbound” media).

In developing the terms of reference for this Inquiry it should have been very obvious that this “telecommunications customer satisfaction’ area is really the domain of the Federal Government – in particular the Department of Broadcasting, Communications and the Digital Economy (DBCDE). While I commend the initiative of instigating an Inquiry it really concerns me the outcome of this Inquiry will also be added to the scrap-heap because it has no clear direction to act and resolve the problems that it uncovers, as the Committee has no Government body with the authority or infrastructure capability to hand the problems onto for fast resolution; making this Inquiry / Committee another total waste of revenue.

Let’s work it through: The Inquiry results in a relatively large number of non-metropolitan citizens and community groups (eg shires etc) with a series of common symptomatic telecommunications problems. The telecomms infrastructure is a Federal issue that to a large degree is now a commercial infrastructure and consequently there is very little telecomms technology infrastructure ownership to make the necessary changes to fix the problem! So the Committee is lame and its’ Report will be yet another total waste of revenue.

Giving the problem to Telstra is fruitless because in 1982 (under extreme pressure from the WTO to privatise infrastructures) the Federal Government introduced the highly flawed “competitive regime”. The then Telecom Australia realised that everywhere outside the capital cities was a “Cost Centre” so Telecom Australia / Telstra deliberately minimised their overhead expenses to these areas to maximise the shareholder value – and that is why all areas outside the capital cities now have relatively poor telecommunications facilities.

The problem was also realised by the previous Liberal Federal Government, and because they heavily favour big business (of which Telstra, and the financial sectors are major players), the Liberals ran Inquiries like the one here, and secreted “Future Funds” for the financial sector’s benefit. Part of that benefit I believe was the arrangement that the interest (after “expenses”) would be put forward to assist in the rebuilding of the non-metro telecommunications infrastructure. Even “Blind Freddy” knew that the dribble from the Future Funds was totally inadequate to go anywhere near addressing the rebuilding of the telecommunications infrastructure, and it became painfully obvious that a commercial / competitive solution was a total disaster.

In February 2009 at the World Broadband Forum in Sydney, there was very strong consensus by a large majority of the industry leaders that the theoretical rules of economic competition are a folly in practice and in particular when it comes to the telecommunications infrastructure business. Large bandwidth competitive infrastructures cause large quantum drops of network occupancy causing serious price undercutting making competitive telecomms uneconomic.

The current Labor Federal Government also realised the problem and they knew that they had to get the competitive regime out of owning infrastructure for essential services, or these poor service problems will persist for time immemorial. The Federal Government is getting the private sector out of the telecomms infrastructure by introducing the NBN as the national telecomms wholesale provider, and it needs all the support it can get. Unfortunately the National Liberals still don’t get it, because they wish the NBN to operate on a commercial basis and that will put everything back to about 1990. There is no way that the NBN can ever operate as a commercial business, because the inefficiencies of competitive business have overheads that are at least 200% greater than sub-government commissions.

Telstra has to realise that to maximise their profit they have to ‘let go’ all the non-metro facilities and infrastructure to the NBN Co – but in doing that Telstra will no longer be able to claim the USO (for what it is worth) and Telstra will risk losing face in apparently not having the ‘mums and dads’ support they had well before Telecom Australia was forced to become a commercial animal and not a friendly essential service! (That is all there is to this complexity – nothing else – apart from Telstra paying to have these “Cost Centres” taken off their books!)

The use of telecommunications services had gradually changed in the past 50 years, where narrowband Telegraphy has been replaced by Broadband Internet but non-metro land-line telephony remains a common household essential service in non-metropolitan areas (and telephony has an inherently low bandwidth requirement which is less than 4 kHz).

ADSL is a short distance (<2km) interim technology that never should have been introduced much beyond the CBD and never beyond 2002. My reasoning is that technically, ADSL operates on customer access pair cable that was engineered for voiceband telephony services (ie less than 4 kHz) and because the operating bandwidth of ADSL extends to over 1,100 kHz, this transmission suffers from two main problems in the cables: excessive crosstalk and attenuation (in that order), compounding to make ADSL a very ‘awkward’ technology mix, greatly paralleled by Cinderella’s glass slipper being forced on by the Very Ugly Step-Sisters!

Most larger businesses in metro areas are now connected with Optical Fibre access technologies, leaving ADSL for the (unprofitable) consumer market. In my opinion ADSL should have been totally replaced by optical fibre – but ADSL still remains today. The prime reason why optical fibre access technologies are not mainstream in Australia is that Telstra is a commercial animal and its prime concern is to its shareholders – not the end users.

Replacing pair copper cable with Optical Fibre (OF) is but part of the story, as the exchange terminal access equipment has to be totally replaced and the backhaul will have to be radically rebuilt to handle the much larger Broadband bandwidth requirement – and that is expensive.

The NBN budget of say \$43 Bn over 8 years that is about \$5.3 Bn per year – in my opinion and industry experience; that is a slight industry underspend for the telecommunications infrastructure in Australia so the people that are complaining need to have a reality check.

CAN Access lengths in Europe are generally far shorter than they are in non-urban Australia, and comparing any country in Europe to Australia is a folly. Both Canada and the USA are tied together for backhaul and both of these countries have extensive cable TV – so again these cannot be compared to Australia – so don't look for international comparisons!

In an earlier submission to the Parliament of NSW (Transforming Life Outside Cities): Submission 1, I provided links to how and where the prime backhaul should be mapped into NSW, Queensland and Victoria. This Backhaul – should the NBN Co decide to take notice of my experience in this plan – as it would provide the necessary infrastructure to resolve virtually all your constituents' complaints of not having sufficient Backhaul infrastructure.

Links in my earlier submissions showed that access OF could be span more than 60 km from any SCAX hut that had a backhaul spur connecting to it, and in most cases this remote OF access cable can be run under the power lines with an absolute minimum of wind loading, and a minimum of cost. In towns there already are conduits and these are readily available after Telstra hands over this infrastructure; so the costs for distributing the OF BB CAN are extremely low (considering that OF is far cheaper per unit length and comparatively lighter than pair copper). This would provide IP Broadband for all your constituents – and give them Free TV on OF cable, Pay TV on OF cable and IP telephony on Broadband. Remote mobile base stations are also a direct probability too.

So, thanks to what I consider to be a rather poorly conceived Inquiry, the NSW Government now has a swarm of unhappy constituents and a lame Committee; as this Committee has no well-considered engineering solution to immediately address the citizens problems.

The Committee really needs a highly functional working solution – and one answer would be to hand the submissions over to the NBN Co and let them do their work without getting in their way.

However, I am currently of the opinion that the NBN Co does not currently have the critical mass and internal expertise to efficiently design, purchase, construct, and operate any substantial telecommunications network until Telstra hands over its non-metro infrastructure and all consumer access infrastructure, the NDC (Network Design and Construction) arm and the GOC (Global Operations Centre). Even then, because Telstra has substantially broken up its NDC arm, NBN Co will have to sub-contract out telecommunications construction businesses to do much of the Design and Construction work for them in the first case.

I am available to discuss any aspect of this submission with the Committee.

Kind regards

(Signed)

Malcolm Moore

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