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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 when using pair copper, 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 how poorly that non-metropolitan communities are connected to the 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 – all of which do nothing to resolve the problem but merely state that there is a problem – and we all know that in any case! Since then the Fed Gov Senate Select Committee has had similar continually Inquiries – which culminated in the birth of the NBN, which then went through a total restructure when the engineers finally got the message (over the sales people) to the Select Committee; that pair copper will not deliver Broadband and Optical Fibre will (and radio is a very poor second solution).

In developing the term of reference for this Inquiry it should have been very obvious that this 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 resolve the problems that it uncovers, and it has no body with the authority or infrastructure capability to hand it on to.

Let’s work it through: The Inquiry results in a relatively large number of non-metropolitan citizens and community groups (eg shires etc) telling how low the relative communications standards are in comparison to metro citizens; but Telecomms infrastructure is a commercial and Federal issue and consequently there is no technology ownership or infrastructure ownership to make the necessary changes to fix the problem!

Giving the problem to Telstra is fruitless because the Federal Government introduced a highly flawed “competitive regime” back in 1982 (under extreme pressure from the WTO to privatise infrastructures), and 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 have relatively poor telecommunications facilities.

The Labor Federal Government have realised the problem and they know that they have to get the competitive regime out of providing the 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 the wholesale infrastructure on a commercial basis and that will put everything back to about 2000.

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 30 years, where telegraphy has been replaced by Broadband, 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 not 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: excessive crosstalk and attenuation (in that order), both of which compound 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 commercial sites are now connected with Optical Fibre access technologies, leaving ADSL for the (unprofitable) consumer market. In my opinion ADSL should have been removed by about 2000 and 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, and replacing pair copper cable with optical fibre is but part of the story, as the exchanges' terminal access equipment has to be totally replaced and the backhaul will have to be radically rebuilt to handle the Broadband requirement – and that is expensive.

When you look at 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 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 far shorter than they are in non-urban Australia, and comparing any country in Europe to that in Australia is a fools' game. Both Canada and the USA are tied together for backhaul and both of these countries have extensive cable TV / Broadband – so again these cannot be compared to Australia – so don't look for 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, and this backhaul – should the NBN Co decide to take notice of experience – this plan would provide the necessary infrastructure to resolve virtually all your constituents complaints of not having sufficient backhaul.

That submission and the associated links from it also showed that Optical Broadband could be run over 60 km from and SCAX hut that had a backhaul spur connecting to it, and in most cases this OF 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 the 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 Broadband, Free TV on cable, Pay TV on cable and IP telephony. Remote mobile base stations are also a direct probability too.

So, now that you have a swarm of unhappy constituents and you have no solution in hand because your management have created a really ill-conceived situation that was not thought through to a workable solution. You really need a solution – and that is to hand the submissions over to the NBN Co and let them do their work without getting in their way with NSW overheads like the debacle of the BER programme run by an apparent fellow Federal Labor Party and what seems like rather incompetent bureaucrats at the Federal level.

Kind regards

(Signed)

*Malcolm Moore*

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