

**Submission to the
Department of Broadband Communications
and the Digital Economy
on the
Implementation of the Universal Service Policy
to the NBN Environment**

By

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Dear USO Branch (no name provided)....

Thank you for the opportunity to respond to the USO discussion paper.

I hope that these responses will be taken on board to make the NBN Co work more effectively and that the USO Co can be made efficient through being minimised and its functions not duplicated or repeated by any other body – or the functions of USO Co can be merged into the NBN Co at an early instance.

Please do not hesitate to contact me for further information.

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Answers to Chapter 3.1

3.1(1a) Is it appropriate for the agreement to specify that Telstra both operates and maintains nominated infrastructure (i.e. deliver wholesale services) and also supplies the standard telephone service (i.e. deliver retail services)?

The Infrastructure transition from Telstra to NBN Co is a process that will take in the order of five to eight years to complete, and in that time Telstra will be progressively handing over virtually all its' telecommunications infrastructure to NBN Co, who will progressively manage and operate this infrastructure from that point.

During this period, Telstra will be in a situation where it will be both the wholesale provider and the retail deliverer of telecommunications services.

(1b) What alternative or additional arrangements could be established that would enable the provision of a standard telephone service, for example, an agreement with Telstra that relates only to the delivery of wholesale services in combination with a subsidy scheme for retail service providers or by appointing a retailer of last resort?

3.1(2) Under what circumstances would it be appropriate for non-copper infrastructure to be used to efficiently deliver voice services to customers in National Broadband Network non-fibre areas that are currently served by copper infrastructure?

There is a fundamental flaw in the strategic thinking concerning the “copper infrastructure”, and here is why:

About 1975 the then Post Master Generals Department / Telecom Australia had a serious look into future technologies because the current switching technology was a major concern. The engineers realised that the existing telecommunications network in Australia (which was fundamentally analogue technology) would have to be replaced with digital technology and this would resolve many of the serious impending switching performance issues.

There were two digital technology areas – digital transmission and digital switching. Both of these technologies were in their embryonic stages – and the Australian Telecom Research Laboratories were near the forefront in both areas in research. Although TRL had developed ‘proof of concept’ equipment, they had not developed any large scale manufacturing processes of these technologies.

By 1980 L.M. Ericsson (Sweden) had secured a substantial contract with Telecom Australia to provide a range of Digital Switched exchanges across Australia. These AXE exchanges were rolled out over the next 12 years to replace the ageing Strowger and SE52 Step-by-Step local switches, Sylvester switchboards, the ARK, ARF and ARE switches used for local / remote and inter-district switching; and the 10C exchanges used for inter-regional, inter state Backhaul Network connectivity.

Before 1985, virtually all the Backhaul Network (the network that connects between various exchanges and has no customers) was strictly pair copper as loaded cable (particularly all over every metropolitan area). For long distance, the transmission technology of choice was point-to-point high capacity analogue radio, or analogue transmission over coax cable or over quad copper cable.

With digital exchanges popping up everywhere the natural progression was to re-utilise obsolete analogue pair copper junction cables (those used in the Backhaul Network between exchanges only) as digital junctions running 2 Mb/s between the digital exchange sites.

Until 1985 when Optical Fibre first heralded a massive improvement in transmission productivity, virtually all transmission (other than long haul radio) was on pair copper, quad copper or coax cable. In that long-gone era, virtually all the Customer Access Network (CAN) was also pair copper.

So, 1985 signified the end of the “Copper Infrastructure” network, and with Optical Fibre replacing the pair copper, and high capacity radio that was used for inter-exchange connectivity, and by 1992 the Backhaul Network was virtually Optical Fibre everywhere.

By 1994, because of reliability issues and the need for wide customer bandwidth into digital exchanges, virtually all the Central Business Districts (CBDs) had Optical Fibre loops installed in the Customer Access Networks for all metropolitan cities and most regional cities, and almost all commercial businesses of any reasonable size were already connected via Optical Fibre CAN by the year 2005.

Putting all this into context **“there is now no such thing as a copper infrastructure”** the pair copper that remains within the telecommunications infrastructure is that which connects only from the premises to the local exchange – and from there it is already Optical Fibre. More than 30 years ago there was such a thing as a copper infrastructure to provided end-to-end connectivity. **The current remaining “copper infrastructure” cannot provide any end-to end connectivity.**

For the NBN Co to be practical, it has to outright purchase a very high percentage of all the Telstra Exchange sites, and all Telstra’s Backhaul Optical Fibre infrastructure, and associated equipment. Without this, the remaining “Copper Infrastructure” connects to nothing – not even itself!

3.1(2) Under what circumstances would it be appropriate for non-copper infrastructure to be used to efficiently deliver voice services to customers in National Broadband Network non-fibre areas that are currently served by copper infrastructure?

Fundamentally, virtually all the pair copper that is in Australia is only in the Customer Access Network (CAN) connecting from the local exchange sites to residential and small business customers / consumers premises in the immediate (nominally 4.1 km) range. This remaining CAN-based pair copper infrastructure has reached its use-by date because of technology advances and because of rapidly rising maintenance requirements making it very non-commercial.

What has to be realised is that this pair copper to the premises (CTTP) has to be removed or discarded and replaced with Optical Fibre to the premises (FTTP) in the immediate future. This situation takes away the choice of whether or not to use pair copper and immediately gives the premises owner the connectivity choice of: Nil, FTTP to the local exchange or Mobile Phone via local Radio Base Station.

What has also to be realised is that at least 99.9% of the current Backhaul Network is Optical Fibre and this Backhaul Network connects to virtually every local exchange site, so there is a high degree of Backhaul Network Optical Fibre connectivity that can be re-utilised as partial CAN FTTP connectivity, particularly if the Passive Optical Network (PON) strategy is engineered in.

In metropolitan areas, there already is an abundance of duplicated non-copper CAN facilities (HFC, and Radio Base Stations) that can efficiently deliver voice services. Unfortunately the HFC technology is fast reaching its use-by date and by 2015 this HFC technology will be due to be pulled out and replaced by totally Optical Fibre to the Premises (FTTP).

In Regional areas, most of these cities already have substantial Backhaul Network Optical Fibre passing through them, and these areas are prime candidates to have their Copper to the Premises (CTTP) totally removed and replaced by FTTP.

In Rural areas, many of these areas already have some substantial Backhaul Network Optical Fibre passing past them, and these areas are prime candidates to have their Copper to the Premises (CTTP) totally removed and replaced by FTTP. In these instances the local exchanges may well have optical fibre as Backhaul Network infrastructure feeding from a parent (district) exchange site. It would make economic sense to re-allocate the Backhaul Network spur as FTTP and include a passive splitter (with a reduced fan-out) at the local exchange site, so the distance could extend to say 30 km or more from the district exchange site.

In Remote areas, few of these localities already have any substantial Backhaul Network Optical Fibre passing through them or even near them. These areas are still prime candidates to have their Copper to the Premises (CTTP) and Radio to the Premises (RTTP) totally removed and replaced by FTTP.

In these instances the local exchange will most probably not have optical fibre Backhaul Network connectivity to be transferred into FTTP as described above for the "Rural" case. What is needed here is a substantial inland Backhaul Backbone optical Fibre system (as I have already described many times to the DBCDE and Select Senate Inquiries) to economically provide this connectivity without resorting to satellites and/or radio systems (both of which are relatively expensive, low reliability and high maintenance compared to any form of Optical Fibre Backhaul).

This very high capacity Optical Fibre backbone would provide the necessary Broadband connectivity that is imperative for the many customers in premises and service not in premises as such; and provide a national inland bypass for international and inter-metropolitan traffic.

Once this high capacity backbone is in place then a grid of optical fibre backhaul (again as described several times before) can be connected near to or through many of these remote exchange sites, providing them the connectivity for (aerial) FTTP to the premises of over 40 km from the local exchange sites.

3.1(3) What arrangements should USO Co put in place to ensure the ongoing delivery of voice-only services once the NBN Co fibre network is operational?

Voice only services can easily be delivered over FTTP and this can be upgraded at any time to incorporate Broadband service as required.

3.1(4) What key principles and considerations should be taken into account in providing flexibility in the duration of the agreement with Telstra to reflect changing circumstances, such as the availability of NBN Co's wireless or satellite services?

After reading the response to 3.1(6) it should be rather obvious that the FTTP footprint is in the order of 25 times (2500% greater) than the directives provided in the very expensive and rather misleading McKinsey "NBN Implementation Study". Therefore the need for wireless and Satellite service should be almost never a requirement anywhere in Australia.

3.1(5) If separate agreements were established for non-copper infrastructure to deliver voice services in National Broadband Network non-fibre areas, what would be an appropriate term?

What non-fibre areas – show me?

3.1(6) What is the desirable end state model for the provision of voice services outside the fibre footprint, in terms of technological solutions and universal service arrangements, beyond the life of the initial agreements?

The first issue is to correct the size of the Fibre Footprint!

Very unfortunately, the McKinsey "NBN Implementation Study" produced in mid 2010 at an immense cost of \$25M, specified the maximum distance limit for FTTP as 10 km (most probably as based on metropolitan sales documents and not through engineering expertise in the subject). This rather inept specification has a profound shrinking effect on the possible footprint available to FTTP and it unnecessarily brings in the use of other far more expensive technologies (satellite and radio) where FTTP would economically work far better and far more reliably.

To further compound the problem, the McKinsey document utilised ABS data to support the various CAN technologies without understanding that most populations are not evenly distributed but in clusters (cities, towns, villages and homesteads) and these localities are usually co-linear located (usually on straight roads) that generally form a loose rectangular mesh that really suits optical fibre technologies for both Backhaul and FTTP infrastructures.

It is very clear that the people that wrote the McKinsey document did not have a broad engineering understanding of FTTP technology and used a rather inappropriately short (metropolitan) distance limit that fundamentally only applies to the metropolitan footprint situation. Optical Fibre technology is to be

used in Metropolitan, Regional, Rural and Remote areas in Australia where the populations are in clusters and non-metropolitan engineering structures would be utilised with widely differing footprints.

FTTP has a distance limit that is limited by its optical budget and by timing constraints. The timing constraints when using PON (according to Dr Paul Brooks) is in the order of 50 km and Optical Fibre has a Backhaul range exceeding 80 km, as it does not include optical splitters to fan out the premises connections of a single exchange Optical Line Termination (OLT). I have already described in previous submissions to the DBCDE and Select Senate hearings that FTTP can have a distance range exceeding 60 km and with the constraints of timing a 50 km limit is highly acceptable.

The FTTP footprint is effectively up to 50 km radius from the local OLT, not 10 km as specified in the McKinsey document. This new FTTP footprint specification is about 25 times (or 2500%) over the very flawed McKinsey specification.

The Metropolitan the FTTP footprint will remain at nominally 10 km distance (about 7 km radius due to street and CAN density limitations).

The Regional FTTP footprint will be identical to the Metropolitan FTTP footprint within Regional city boundaries (about 7 km radius due to street limitations) but outside these Regional cities, the Regional FTTP footprint would extend to about 30 km distance because other exchange sites with OLTs will be well within a 60 km radius of the Regional cities radius.

With Rural FTTP footprints, these will be nominally 40 km distance and depending on the terrain the radial distance could be limited back to about 30 km in some locations from the local exchange with the OLTs.

With Remote FTTP footprints, these will be nominally 50 km distance and depending on the terrain the radial distance could be limited back in some locations to about 35 km from the local exchange with the OLTs.

When you consider the inclusion of an east-inland north-south Backhaul Backbone with spurs to the coast, this Backhaul grid structure will fit like interleaving fingers with the existing coastal-based Backhaul infrastructure to pick up almost every existing exchange site and provide high capacity Broadband facilities (including voice services) virtually everywhere in populated Australia.

3.1(7) What transition path will enable the desirable end state model to be achieved and how can the initial agreements create the right incentives to ensure that this transition path is followed during the term of the initial agreements?

3.1(8) Having regard to the timetable for finalising the negotiations with Telstra what methodology/approach should be employed to determine the funding costs for the purpose of the proposed contract?

3.1(9) Irrespective of the particular methodology/approach employed, what arrangements should be put in place to provide stakeholders with transparency and confidence in the methodology and outputs?

Answers to Chapter 3.2

3.2(1) What issues, if any, are associated with adopting Telstra's framework for determining payphone locations to meet its Universal Service Obligation (see table 3.8 of the SMP) as a basis for a service agreement between USO Co and Telstra?

Telstra inherited the Payphone (public phones) technology from Telecom Australia, which in turn inherited that from the Post Master General's Department, so there is a long history of experience to report data – information – knowledge and wisdom as to what works, why it works, how it works and how to operate this dying technology with a minimum of overhead while maximising the utilisation.

The prime issue is that NBN Co should be positioned to absorb the Payphone technology from Telstra at zero payment to Telstra, and Telstra should simultaneously hand over all associated staff at all levels to the NBN Co.

In absorbing Payphones into NBN Co, it has to be understood that Payphones is a (business accounting) cost centre and that the USO funding (for example as given for 2009-2010 of \$13.9 M) should be wholly re-directed into the NBN Co to continue supporting Payphones.

The difference here is that in Telstra, Payphones is operating as a commercial business, and in NBN Co, Payphones will be effectively operated as a public service.

The relating difference is that a commercial business operates to charge as much as possible and deliver as little as acceptable; while a public service is supposed to deliver as much as possible while breaking even on overhead expenses.

It should be obvious that the USO Co would have no place in this arrangement.

3.2(2) What alternative approaches could be adopted to identify the payphones that are to be provided by Telstra under its agreement with USO Co?

Telstra is a commercial business driven by maximising its profit margin (bottom line). It makes no commercial sense for any commercial business to operate a cost centre unless they get substantial re-numeration or compensation to bring the bottom line well into the black.

In the case of Telstra with Payphones, this business unit is a cost centre and it is imperative that Payphones be removed from its books. This reasoning is why Telstra will continually look to minimising the number and location of public access phones, and this is why yet another regulatory arm (USO Co) would have to be uselessly funded – because the frame of reference is totally wrong.

Providing that NBN Co is not moved into being a commercial entity, then the frame of reference for NBN Co will be to maximise the availability and service standards of public phones, and the need for the extra regulatory arm (USO Co) is totally unwarranted.

3.2(3) What issues, if any, are associated with adopting the current service performance standards for payphones as set out in Telstra's SMP as a basis for a service agreement between USO Co and Telstra?

3.2(4) What alternative approaches could be adopted to specify service performance standards for payphones under the proposed agreement?

Totally and immediately move the Payphones business unit from Telstra (and the associated compensatory funding) and relocate all this into NBN Co as the not-for-profit wholesale service provider. NBN Co will be looking to maximise the service performance standards (not minimise them as in Telstra) – and the wasted overhead of expensive regulation is virtually eliminated.

3.2(5) Noting the desirability of facilitating contestable arrangements for the delivery of payphones in the longer term and the progressive transfer of responsibility for payphones in

areas to be served by the National Broadband Network, what would be a suitable period for the initial service agreement between USO Co and Telstra?

There is absolutely nothing that prevents the Payphones business unit from being immediately transferred out of Telstra to NBN Co. This being the case then the USO Co would not have to create, negotiate or agree on any service agreement with Telstra (or the NBN Co for that matter either)!

3.2(6) What approach to determining the funding requirements for payphones would provide stakeholders with transparency and confidence in the outcome while minimising administrative complexity and the potential for ongoing disputes?

The administrative complexity and the potential for ongoing disputes originates from having a commercial business model operating over what is a publicly oriented service organisation and this is an ugly and (legally) expensive fit.

If the administrative complexity and the potential for ongoing disputes is to be minimised, then a radically different frame of reference needs to be put in place, and that means removing the commercial aspect from Payphones, and run it as a publicly oriented service organisation.

The NBN Co (as the nominated not-for-profit national wholesale telecommunications infrastructure provider) is perfectly positioned to absorb the Payphones business unit from Telstra, and run it as a publicly oriented service organisation. Using this frame of reference NBN Co would be able to provide publicly accessible phones at wholesale rates to retailers (like Telstra). If no mainstream retailers take up the offer to retail certain phones (particularly in remote locations), then the USO Co could be the default retailer.

3.2(7) What incentives should be included in service agreements to ensure that funding requirements for payphones align with efficiently incurred costs and remain flexible to future customer demands?

No incentives need to be included if the frame of reference is correct. If the Payphones business unit was taken out of the commercial frame of reference and put into the infrastructure / public service frame of reference, then the funding requirements for payphones will directly and efficiently align with the incurred costs and remain flexible to future customer demands. Lateral thinking is that simple!

3.2(8) What arrangements would facilitate the emergence of contestable payphone service agreements in the longer term? On what basis would these approaches achieve efficient outcomes?

The basis of correctly defining "efficient" is the critical factor. In Economics, "Efficient" means near full employment, while in Business terms "Efficient" means maximised profits, and in Physics "Efficient" means minimised loss of energy during energy transfer.

The cold hard fact is that Payphones (and its associated infrastructure) is a dying public access service with an ever-diminishing requirement as more people use mobile phones instead of public access phones. It therefore makes solid business sense to minimise the losses through this transfer of requirement and get the Payphones and associated infrastructure out of the contestable (competitive) arena as soon as possible.

In business terms, Payphones is already an expensive cost centre and the sooner this 'energy transfer' is executed by physically transferring it to the NBN Co as a wholesale service, the less finance will be inappropriately allocated to "keeping this dead horse alive by kicking it"!

This transfer is by far the most business-efficient outcome, and USO Co can then finance the ongoing funding in a non-contestable manner until the Payphones service / infrastructure is terminated.

3.2(9) Under what circumstances would retail service providers consider contesting payphone services delivered to meet the Universal Service Obligation?

With the frame of reference that I have provided above, there will be absolutely no circumstances where retail service providers would or should ever consider contesting payphone services delivered to meet the Universal Service Obligation.

Answers to Chapter 3.3

3.3(1) What, if any, impediments are there to the initial contract with Telstra commencing on 1 July 2012? What alternative commencement date, if any, may be more appropriate? Why?

The business model to be used for Emergency Calls should never be involved with a commercial business because every commercial (competitive) business has a prime priority of maximising its profit through providing as limited a service as possible – and that competitive philosophy is in direct contradiction to providing an essential national public service.

In other words having Emergency Calls operated by a commercial (competitive) business is the totally incorrect frame of reference. The sooner that this frame of reference can be approached from an aligned strategy that matches with the needs of the customers with the emergency calls service charter, the better off all Australia will be.

Telstra is a very aggressive commercial competitive business and it would be difficult to find a worse aligned applicant for the national role. On the other hand the NBN Co is being established as the national wholesale provider for Broadband telecommunications infrastructure, and providing that this business is being established as a not-for-profit arrangement, then the NBN Co would be an ideal 'non-competitive' service business for the emergency services portfolio to directly slot into as a separate business unit.

With NBN Co as the optimum business container for the emergency call centres, there really is nothing to stop Telstra from immediately releasing all of this business unit over to NBN Co at nil expense, and in this move then USO Co can immediately and totally fund the Emergency Calls Unit.

This would be a big win for Telstra as the Emergency Calls area is yet another cost centre that Telstra can really do very well without having. It would be a big win for NBN Co as it would have definite direction to provide the Emergency Calls Service as a wholesale service to all retailers as a fixed percentage annual cost on a per-line basis – making the accounting incredibly simple and consistent.

3.3(2) How are existing performance standards and obligations for the Emergency Call Person best dealt with in an initial contract with Telstra? Is it sufficient to rely on the outcomes detailed in the Emergency Call Service Determination or would additional detail in the contract be required to ensure that the current performance arrangements are appropriately captured?

With Emergency Calls under Telstra there is a continuous fight because Telstra is naturally continuing to minimise the service standards while maximising whatever possible profits are available. With Emergency Calls under the NBN Co as a wholesale service, this totally aligns with the community business strategy to maximally provide these services.

As a direct consequence of this laterally resolved strategy, the existing performance standards and obligations for the Emergency Call service would by far best dealt with in an initial contract with NBN Co, and this is without any additional detail in the contract to ensure that the current performance arrangements are continually being evaluated and improved where possible. Such an addition to the contract would be insulting to the NBN Co as this Quality approach for services is their social business ethic – until some idiot moves to privatise NBN Co.

3.3(3) Are there activities that Telstra currently performs as the Emergency Call Person that are outside of the current regulatory arrangements and should be included in a contract to ensure their continuation and inclusion in the funding arrangements?

This type of question begs the question that Telstra (or any commercial – competitive business for that matter) should be involved in any contract for community services – especially such as Emergency Call Services.

3.3(4) Is five years an appropriate duration for the initial contract with Telstra? Why/why not? What alternative period, if any, may be more appropriate?

Zero years is totally appropriate for Telstra to have the Emergency Call service contract.

3.3(5) If USO Co was to enter into an agreement with an alternative service provider, would a six month transitional period be appropriate? Why/why not? What alternative period, if any, may be more appropriate?

Any alternate service provider that is commercially based is totally inappropriate to provide Emergency Call services. A timed transitional basis period is another alarm bell to warn that this agreement strategy is fraught with problems because the business strategies are anything but synchronous and harmonious.

3.3(6) Is the proposed costing model an appropriate means of determining the costs of the Emergency Call Service? Why/why not? What alternative approaches, if any, are there to determine costs?

Using Telstra's costing model is a valid starting point, but it has to be realised that Telstra's costing model will have to be based on maximising the throughput of calls while minimising the number of bums on seats. This costing model is only a very small part of the overall cost because the cost must also include trauma care of the clients involved and ongoing medical and real estate restitution.

Flipping through the call rate is in itself a very flippant approach to managing the call costs.

3.3(7) Would the proposed costing model to determine the funding requirements for the Emergency Call Service provide stakeholders with transparency and confidence in the outcome? Why/why not? What changes, if any, could ensure greater transparency in the model?

Firstly, the non-competitive business must present its business approach to the USO Co for approval. Secondly, the USO Co must fully agree with the business approach with a minimum of discussion and a maximum of agreeability in mindset. Thirdly, the costing model must be developed in total agreement by the USO Co and the non-competitive business that is to operate the Emergency Call service. This is the only way that full transparency can be relayed.

3.3(8) Would the proposed cost model facilitate the emergence of contestable service agreements? Why/why not? What changes, if any, could ensure that efficient outcomes are achieved?

Contestable service agreements are totally outside the frame of reference for full transparency of business processes.

3.3(9) What alternative costing models are available, that may increase the quality and efficiency of the Emergency Call Service, while minimising overall costs?

In social terms "quality" means whatever is necessary in time and empathy to convey the message. In competitive business terms "Quality" means repeatability with a minimum of variation. In Economic terms, "efficiency" means near full employment, while in Business terms "efficiency" means maximised profits with minimised delivered product or service, and in Physics "Efficient" means minimised loss of energy during energy transfer.

There is no doubt that this question is based on a commercial business concept of minimising the variation and spitting out the transfer to the most appropriate end service connection in the minimum of time, while using the minimum staff that are least trained and experienced to do the work. Clearly this commercial business strategy is an obvious formula for personal and social disaster, and is totally inappropriate for this Emergency Call Service role.

3.3(10) How could necessary upgrades to the Emergency Call Service over time be appropriately costed and funded during the initial contract with Telstra?

Firstly do not give the contract to Telstra or any other service provider that has a commercial interest as their prime goal. Secondly it appears that costing this service is a major issue! Thirdly, once the contract has been awarded to NBN Co as a not-for-profit wholesale service and the people who take the calls have been well-instructed on how to do their work so that they can convey the messages with accuracy and clarity, the operating costs very quickly stabilise.

Only when management actually listens to the operators on a regular (monthly) basis and actively acts on their experience and advice, will the overall operating costs drop to a new lower level. This does not make the centres more profitable, it simply reduces the overall operating costs so that funding can be extended to improve the working facilities – which in turn will again lower the operating costs.

3.3(11) What incentives could be included in service agreements to ensure that funding requirements for the Emergency Call Service are efficient?

The fact that this question even mentions ‘incentives’ is a very clear indication that the frame of reference for the proposed service agreement (being based for a competitive business working in a service environment) is totally incorrect.

Whoever proposed and/or approved this question should be sent into “Management 101” or failing that be immediately sacked for gross incompetence.

Answers to Chapter 3.4

3.4(1) Noting the current contestable arrangements in place to deliver the National Relay Service, and the timeframe for the establishment of USO Co, what are the short-term issues that need to be taken into account to ensure an effective transition of the contract management function to USO Co?

Immediately transfer this service into NBN Co and have it funded by USO Co. This movement will totally remove any ‘contestable arrangements’ and deliver the National Relay Service with a minimum of overhead and a maximum of practicability, for its end users.

Answers to Chapter 3.5

3.5(1) What risks and benefits are there with the model proposed? Are there alternative models that would deliver efficient outcomes?

The proposed model has one prime benefit for Telstra in that Telstra can decommission a very high proportion of its CTTTP exchanges that are outside the metropolitan area and in so doing maximise its profits and minimise its services – because these consumer services fall into the USO areas as these areas are a cost centres. The secondary prime benefit for Telstra will be that the customers that re-connect using FTTP will most likely be Telstra customers (consumers) at the retail level – so Telstra is looking to double-dip profit all thanks to a very ill-conceived implementation scheme.

It is common knowledge that outside the major metropolitan areas (main capital cities and their suburbs) the rest of Australia is basically a cost centre. If this were not the case then competitive telecomms providers would have already provided well-duplicated telecomms infrastructure to lure customers to their networks. Apart from a rather scant mobile phone based radio based station network infrastructure - this has not happened, so there is the proof.

Now, in this understanding, Telstra should be almost too glad to virtually immediately hand over all their non-metropolitan telecomms infrastructure and associated staff to NBN Co and at no cost to NBN Co. This action would immediately free Telstra of the USO costs and this infrastructure could immediately be positioned as wholesale for retail reselling exclusively by Telstra for the first (say) five years. The NBN Co needs more than the pair copper to the premise (CTTP) from the local exchanges – it also requires the local exchanges and the fibre cabling back to the district and regional exchanges – and those exchanges too.

The NBN Co would then be in a much better physical position to efficiently and effectively cut over each exchange in a timely fashion entirely to optical fibre and cut out the pair copper to the premises. If customers only wanted voice services then this is relatively easy to provide with a FTTP service and a dedicated VoIP connection in the premises. At some later date when Broadband services are required the dedicated VoIP modem can be replaced with a Broadband modem at a minimum of expense and/or time delay.

There is a massive cost saving that can be gained by economies of (large) scale. When I was recently working in Silcar Communications I noticed that individual customers in Sydney suburbs (local exchanges) were being connected to ADSL. This process was literally piecemeal (meaning very expensive). Simultaneously, other Internet Service Providers (ISPs) were piecemeal installing ADSL services to individual customers in these local exchanges.

It was obvious to me that if this piecemeal approach were to be replaced by one provider installing all ADSL service connections for all customers then the total labour time would be very considerably reduced and the associated overhead costs would be minute in comparison. As much as 80% of the labour and associated overhead costs could be totally eliminated in this economies of (large) scale .

If this same approach were taken with providing Broadband via FTTP, then although the immediate costs might appear high, the end (longer-term) overhead costs would be considerably lower as most people in premises (and equipment in non-premises) in the future will be connecting to Broadband using FTTP.

3.5(2) Is a voice-only service delivered via the PSTN a suitable definition to use in identifying a voice-only customer? If not, what is an alternative?

There is a major disparity in the definition of the PSTN that needs to be clearly understood.

In PMG / Telecom Australia / Telstra terms; the term PSTN strictly refers only to the analogue Backhaul Network – the network that inter-connects the various exchanges to provide voice-band (200 Hz – 3400 Hz) connectivity. **In this sense; the PSTN has absolutely no customers and/or no premises, non-premises equipment attached to it anywhere, and absolutely no Customer Access Network (CAN) anywhere.** Since the analogue Backhaul Network (Inter-Exchange Network) has been totally replaced with its digital equivalent by 1992, the term PSTN still refers to the voice-band connectivity (200 Hz – 3400 Hz) network between all the switched equipment in the exchange sites' telecommunications facilities and **not any part of any Customer Access Network (CAN).**

In Government documentation the term PSTN obliquely refers to the Backhaul Network **and the Customer Access Network** at each end of the Backhaul Network so that end-to-end voice-band telephony-based equivalent connections can be effected. **In this sense the Government understanding of PSTN is that of end-to-end voice-band connectivity (200 Hz – 3400 Hz) suitable for voice connections (including fixed and mobile phones), fax and similar voice-band terminal equipment like dial-up modems.**

It is therefore very unwise to use the term PSTN without very clearly identifying the exact meaning, so that there is absolutely no room for error as this error of omission will include or exclude the total voice-capable Customer Access Network (including the Radio Base Stations and associated equipment used for mobile phone technologies).

In this case for this document the term PSTN strictly refers to the voice-band (200 Hz – 3400 Hz) capability for end-to-end connectivity between premises and/or non-premises utilising the Backhaul Network **and the Customer Access Network** at each end.

Voice-only services; that is voice-band telephony services delivered by the Government interpretation of the PSTN merely indicates that the telephone connection does not have Broadband capability directly associated with it. Therefore a voice-only service delivered via the PSTN a not suitable definition to use in identifying a voice-only customer.

ADSL technology is practically limited to less than 2 km in Metropolitan areas and less than 4 km in Rural and Remote areas because of transmission limitations in pair copper technology. Customers outside that range will have to opt for an alternative Broadband connection like an alternate FTTP business line, point-to-point radio, Hybrid Fibre Coax (HFC), Radio Internet over the Mobile Phone Access Network or in the most expensive option – Satellite. Customers inside this distance may well opt for an alternative method for Broadband connection that is not associated with the telephony service at all.

3.5(3) How can industry-based solutions best be encouraged to reduce the overall number of voice-only customers that require USO Co funding assistance to migrate from Telstra's copper network to NBN Co's fibre network?

Pair copper technology has past its use-by date for CAN telecommunications purposes – so this technology has to be removed. Piecemeal replacing customers services on an as-needs basis (as was done with the inclusion of the ill-conceived ADSL rollouts) proved to be very expensive, labour

intensive, and riddled with rework issues (primarily due to the lack of accurate documentation in the CAN).

In business terms, the most efficient (least cost) approach would be to connect each “premises” with FTTP in a 100% rollout and in this rollout remove the pair copper technology CAN, so all “premises” are then Broadband capable (and therefore voice-band capable too through the implementation of VoIP technology at the premises if and when desired. Those customers / people that want Broadband and / or Voiceband can be virtually immediately connected at a minimum expense. For those “premises” that do not want any connection at all, the connectivity is there to the “premises” but not powered or internally connected.

With the approach that I have described above, the need for USO funding is limited to Rural and Remote locations where Backhaul Networks (as described elsewhere in this and other submissions by me) need to be converted back from Optical Fibre junctions to part of the new FTTP PON structure with a limited optical splitting to allow greater distances. Concurrently the inclusion of new high capacity Optical Fibre Backhaul Backbones together with Optical Fibre CAN spurs in these same cable sheaths so that wayside “premises” can be connected will minimise the financial outlay by NBN Co. and in turn limit the amount of subsidiary funding required from USO Co.

3.5(4) How should the voice-only migration assistance be provided to avoid perverse incentives that would increase the number of customers that receive voice-only migration support, and then subsequently convert to broadband services?

As a telecommunications engineer and with telecomms industry experience from 1966, I have first-hand witnessed the unnecessary network congestion and switch congestion problems caused by piecemeal provisioning and then piecemeal augmentation.

The Broadband Network infrastructure needs to be engineered for the worst-case (highest capacity) structure in the first instance, and then installed in a controlled manner that maximises the ROI while allowing a known network augmentation process – particularly including long-term reserved floor space in telecomms exchange facility sites.

It is well-known that marketing people have extreme difficulty in telling the truth and/or keeping to a straight story line, so these people will attempt every possibility to negotiate a ‘deal’ that will migrate “premises” from voice only to full Broadband and offset the costs to a third party.

The simple answer is not to provide any incentive, and concurrently provide the industry wholesale pricing on a national-wide consistent basis that leaves absolutely no ‘wriggle room’. It is then up to the marketing and sales people in the retail reselling businesses to bundle various other products and services to attract their potential customers.

Because the engineering homework on providing a Broadband facility for every “Homestead” has already been done, then as the take-up increases with time, there will not be any over-the-top expensive outlay to heavily restructure any network over what was originally well engineered for the nominal five to 10-year future.

3.5(5) What audit/cost verification mechanisms and processes should apply for migration of voice-only customers to a fibre-based service?

3.5(6) What issues would arise if USO Co was to meet the agreed costs of migration of voice-only customers three months prior to the decommissioning of an exchange? What alternative periods or approaches, if any, may be more appropriate?

The NBN Co funding was, as I understood fully funded to meet the agreed costs of migration of all customers from all exchanges. USO Co should not be involved here at all. If USO Co provides any auxiliary funding, then the agreed prices will rise to match this added funding (and there are a flood of these ill-conceived useless funding examples).

3.5(7) What are the basic activities and materials that a flat one-off payment should address?

That is what Engineers are employed for.

3.5(8) What is an appropriate method for determining the average cost for the activities and materials, and how should any differences in costs of migration be managed?

That is what Engineers are employed for.

3.5(9) What role could industry play in ensuring that the costs that are to be taken into account are efficient?

First clearly define efficient! (Is this in economic terms – meaning to employ as many people as possible? Is this in business terms meaning to maximise the profit?)

Answers to Chapter 3.6

3.6(1) Apart from traffic lights and public alarm systems, are there other public interest services that currently rely solely on the copper network that should attract support?

The “Copper Network” here is assumed to be the pair copper based Customer Access Network.

Many Community Radio Stations have their programme lines connecting from their studios – through the local telephone exchange and cross-connecting to the transmitter site through conditioned (equalised and amplified) pair copper lines. When the pair copper CAN is removed and replaced with Optical Fibre technology, these connecting lines will need to be re-engineered.

1b What industry-based commercial arrangements, if any, are in place or could readily be made available by the market for these services?

It would make economic sense that the NBN Co would have a minimum standard set of equipment interfaces that would directly replace pair copper technologies, and these commercial arrangements would then be re-engineered in very standard equipment and at a minute fractional cost of engaging outside consultants for what would be standard interfacing arrangements.

3.6(2) What existing or soon to be available technological solutions for migration of copper-based public interest services, if any, could be used or readily adapted without requiring USO Co to substantially fund development of a new technological solution?

The NBN Co should have already chosen a tight range of technological solutions that will be the most cost-effective and reliable solutions to provide the necessary interfaces to replace pair copper technology interfaces; all this in their business brief. As such this topic is not a question for general discussion.

3.6(3) For each public interest service identified, are there particular issues or challenges that would be need to be resolved in order to develop a technological solution?

For each public interest service identified, there are particular issues or challenges that would be need to be resolved in order to develop a technological solution, but that is entirely up to the engineering team in NBN Co. As such this topic is not a question for general discussion.

3.6(4) If required, should the USO Co funding for development of a technological solution or solutions to transition public interest services only support migration from copper to fibre, or should technological solutions also support migration to other platforms (for example, wireless or satellite)?

These transfer technologies are very well established and so it is not up to the USO Co to provide any funding for development of a technological solution or solutions to transition public interest services to support migration from copper to fibre and/or other platforms like radio / satellite.

3.6(5) In circumstances where competitive sourcing of solutions is unavailable, what benchmarks could be used to determine the likely cost of researching and developing or adapting technological solutions for migration of copper-based public interest services?

From first-hand experience in engineering interfacing solutions for more than a decade I know that competitive sourcing for interfacing solutions is furthest from an economical approach. If an interfacing solution is apparently unavailable then this problem should be best left with the engineers in NBN Co as their expertise speciality. They will come up with the most cost-effective strategy for the most appropriate interface – or re-engineer the overall situation to utilise a standard cost-effective interface and thus provide the most cost-effective solution for the interfacing.

3.6(6) How could funding be structured to encourage innovative industry-led solutions to support migration of copper-based public interest services?

If the frame of reference is correct then there is no encouragement necessary and no extra funding necessary for any innovative industry-led solutions to support migration of copper-based public interest services.

Looking at this issue another way – if there are any requests for funding for any innovative industry-led solutions to any support migration of any copper-based public interest services, then the people / businesses / industry / peak body; who are requesting the funding are a fraud.

3.6(7) What approach to determining the funding requirements for the development of a technological solution for migration of copper-based public interest services would provide stakeholders with transparency and confidence in the outcome?

Technological solutions for the migration of copper-based public interest services onto Optical Fibre and/or Radio is a very mature technology. Understand that Optical Fibre and Optical Fibre interfacing / replacing previous pair copper based services has been in continuous applications and use since about 1985 (more than 25 years) and there is literally no reason for providing funding to a technology that is clearly very mature.

The real problem is in reversing the frame of reference to get an honest and transparent accounting procedure in place over the intending stakeholders to show exactly how, why, where and when the intended funding was used – and who actually used this funding.

3.6(8) What arrangements should apply to intellectual property developed with USO Co funding and to its commercialisation?

The standard rule is that if funding is provided for any research business then the body that provided the funding actually 100% owns all and every bit of intellectual property that is generated and 100% of the royalties of that commercialisation. The CSIRO is a classical in-house example.

Background on the Creation of the USO

USA Economic Background

By the early 1950's some selective parts of the economic teachings of John Maynard Keynes had reached a crescendo in the USA following the mid 1930's depression. Some of Keynes teachings were that competition was the way out of the depression and that increased competition would induce business efficiencies, which in turn would be passed onto the countries wealth. The USA industrialists jumped onto this bandwagon as it perfectly fitted their business models, and they then really exploited the teachings by skilfully removing any adverse teachings and texts from books and school / university syllabuses in the USA¹.

The words Communist and Socialist were literally on the blacklist in the USA and anybody that were shown to have any association with anything but the Capitalist (competitive) regime were isolated from the USA society / workforce. Keynes teachings in the USA were treated above royalty and the mindset that competition is the only way for business and community efficiency is almost as strong now as it was then. The recent global financial meltdown in 2007/8 (that originated from hurricane

¹ Prof. Sharon Beder: PowerPlay – the fight Control of the Worlds Electricity, Scribe Publications, 2003, ISBN 0 908011 97 0 (Library: 333.9732)

Katrina)² is solid proof that Keynes economic teachings on profiteering through unregulated competition, has very serious flaws.

The problem with the selective Keynes teachings is that competition only works in a growing economy market, and when that economy market take-up exceeds about 20%, simple "Adam Smith" competition; as postulated by Keynes, starts to falter because there is very limited room for growth. At this stage the large number of equally competitive businesses changes tack with mergers and acquisitions take place to bring the market back to a duopoly or a monopoly and very little government regulation.

Monopolies are inherently extremely politically powerful because they usually target the essential infrastructures (banking, hospitals, education, road, rail, sea shipping, air transport, telecommunications, electricity, water, religion) and these monopolies naturally gain control of land usage over the government of the day. The Keynes model of virtually unregulated competition uses 'discretionary' commodities as the base; but this model also incorrectly includes essential infrastructures as 'utilities' in being part of the 'competitive' model and this is the fundamental economic flaw in his theory. In the USA, the essential infrastructures ('utilities') are almost entirely private monopoly controlled, and people there believe that they live in the highest competitive and business efficient community in the globe.

It does not take all that much vision to see that the entire service industry in the USA (and in Canada) is severely underpaid for their work and these people beg (as tips) for extra funding from their customers to ease the slavery conditions. Fortunately in Australia, and many other parts of the more developed world, service workers are provided a reasonable living wage and begging for tips is neither expected nor acceptable.

By the 1960s the main USA based industrialists / bankers / financiers realised that their USA market was at saturation and if these industrialists / bankers / financiers wanted to increase their empires then they would have to plunder the infrastructures in other countries. To do this, they had to change the hearts and minds of governments on a global basis to block any form of communist government from profiting on the global market. The World Trade Organisation (WTO) moved from being a USA-based ('world') structure to a global structure with a very heavy contingent of USA financiers steering the strategies for their own financial and business interests.

Global Background

Well before 1982 there was a concerted international pressure from the World Trade Organisation (WTO) to all the developed and developing countries to move infrastructures out of government hands and privatise them. This internal pressure was backed up by the International Monetary Fund (IMF) threat of severe financial sanctions if developing and developed countries did not comply with the WTO 'recommendations'.

The given reasoning for this shift in infrastructure management and ownership was that these businesses were being operated 'inefficiently' and that large business efficiencies would be gained by moving these infrastructures into the private market – where market forces would set a true value for the (essential) services.

The actual purpose of this international pressure was that many large USA-based 'Utilities' (essential infrastructure businesses) had made a commercial killing in the USA and they were seriously looking to expand their enterprises offshore – but they could not do this globally with these essential infrastructures being locked up under many governments, so they created a strategy to privatise these infrastructures.

As the WTO was heavily infiltrated with an unduly high proportion of USA-based heads of major businesses, it was a relatively simple strategy to use the WTO as the vehicle to herald "micro-economic reform" and another simple strategic alliance to use the IMF to enforce on many governments on a global basis to privatise their infrastructures or face international financial isolation.

Davidson Inquiry

Australia embarked on 'micro-economic reform and in 1980 the Davidson Inquiry³ was set in place to identify how the then Telecom Australia could be privatised to make business efficiencies. It was very

² Jeff Rubin: Why Your World is about to get a Whole Lot Smaller, Random House Canada, 2009, ISBN 978-0-307-35751-9

quickly realised that Australia was very different than the large majority of countries mainly because the size of Australia rivalled that of the USA, or Canada, or Asia, or twice that of Europe, but the population density was exceptionally low in comparison, and that relatively long distances between (major) centres was a very significant financial cost-centre issue.

The earlier Post Master General's Department (PMG) had done an exceptional role in providing a broad-based telephony services to a very high proportion of the population, and considering the available technologies at the time; this service was globally rated as one of the very best. The PMG telecommunications service standards had put the USA competitive telecomms services to shame; but that was not going to stop the push for privatisation from the WTO and IMF.

The Davidson Inquiry approached the commercial path to satisfy the demands put on by the WTO and IMF, and it was quickly realised that because of the existing technologies and the vast distances involved between centres, then areas of lesser population densities than the metropolitan cities (and not in the 'channel' between these major centres) would receive a far less than equitable telecommunications services if and when the telecomms infrastructure was privatised.

The Davidson Inquiry resolution⁴ was to make the return on investment (ROI) for non-Metropolitan telecommunication services comparable to those in Metropolitan areas by providing a monetary offset to compensate commercial telecomms businesses operating in these low population density (Regional, Rural and Remote) areas. The simple reasoning was that if these commercial businesses were provided a monetary offset (called the Universal Services Obligation – USO) to compensate for their less than commercial ROI then the competitive regime could continue to stand as 'recommended' by the WTO; then competition would drive up the service standards in these Regional Rural and Remote areas. It was also postulated that in time, the monetary offset (USO) would no longer be required because competition would then spread into these non-commercial areas and naturally improve the service standards of these localities as they 'became commercially viable'.

The simple reasoning was incredibly ill-conceived, because the distances involved significant infrastructure investments that would never pay for themselves – let alone be commercially viable. When it comes to competition, this involves at least a duplication of expensive and under-utilised infrastructure and that is at least 50% less efficient than a single infrastructure provider. So it is extremely obvious that commercial / competitive (telecommunications) infrastructures is a practical impossibility in Australia, and that non-private control of all infrastructures is the correct strategy – but that would greatly upset the WTO privatisation bandwagon.

Competitive Telecomms Failures

Successive Australian Federal Governments have remained in fear of the WTO and its 'recommendation' to strip essential infrastructure from government businesses, so that these infrastructures can be floated on the Australian Stock Exchange (ASX) and private funding can then invest in these infrastructures, and these infrastructures can then return dividends to the investors. Concurrently, executive management salaries have rocketed from a few hundred thousand annually to several million annually; the service standards have dropped very significantly and manufacturing businesses that would have continued to flourish from using these infrastructures have all but ceased in Australia.

In particular, the telecommunications manufacturing industry in Australia has all but been closed down and virtually all manufacturing comes out from China, with small-scale low technology assembly work done in the shells of the earlier Australian factories; and telecommunications research work is virtually zero. The once world-leading Telecom Australia Research Laboratories are now the "Global Operations Centre – GOC" a glorified name for the installation and maintenance coordination facility for Telstra.

Over considerable time, successive Australian Federal Governments have collectively recognised that they have made an immense error in privatising Telecom Australia, because the USO figure is not decreasing as it was cheerfully presumed – even though the overall cost of telecommunications facilities has more recently dropped⁵ in the order of 75% per decade.

³ J. A Davidson et al, Davidson Report, 1982, Australian Publishing Service, Canberra, Cat No: 822007 (V.1), 8220081 (V.2), 8220093 (V3), ISBN 0644012315 (set of three)

⁴ Davidson Report 29-Oct-1982 Vol 1 page 8: "The Role of Competition" Points 14 &15 and Ref: S. C Littlechild "Elements of Telecommunications Economics" page 199

⁵ Malcolm Moore, Submission to the NBN Inquiry 2009, Appendix 1

This situation then brings into serious doubt that the competitive regime economy is in business terms 'efficient' and it has been readily accepted by leading Australian telecomms executives that competition regime has introduced highly unnecessary multi-duplication of scarce and expensive telecomms resources – leading to many unprofitable situations (like for example the Optus Hybrid Fibre Coax (HFC) Broadband Customer Access Network (CAN) in all major metropolitan areas); which as far as I am aware has never actually paid for itself – even after all these years; and it is heading to obsolescence by 2015.

It is very common knowledge in the Australian telecomms businesses that there is a serious over duplication of long-haul optical fibre between and in metropolitan areas and a very serious lack of long-haul optical fibre outside metropolitan areas. These telecommunications infrastructure disparity problems were brought about by greed through the competitive regime and the USO has done absolutely nothing to prevent the problem from getting worse. To complicate matters, there have been several reports over several years to the various Federal Governments all saying the same thing in that the non-metropolitan areas are now severely under-resourced and something has to be done to correct the problem.

Utilising NBN Co

For more than a decade⁶ I have been championing the restructuring of the Australian Telecommunications industry in yet another 'micro-economic reform' that the telecomms infrastructure should be brought into one sub-government body that operates in a non-competitive mode to provide wholesale services to retail resellers. These retailers can then make a considerably good business just like other commercial retailers like Myers, David Jones, Coles, Woolworth's, and Wesfarmers etc. At this stage the business structure, technology mix and economic direction of the National Broadband Network (NBN Co) is extremely close to the wholesale economic infrastructure model that I proposed and championed.

The NBN Co is to be the wholesale provider of telecommunications services in Australia for the future and it makes absolutely no sense at all to create yet another company (USO Co) to direct NBN Co on how and where to do its work when NBN Co already has this identical brief. The brief that NBN Co already has is to provide equitable Broadband telecommunications services to a very high percentage (98%??) of the Australian population and the brief that USO Co would have will be virtually identical. The USO Co brief would be to identify the localities that are poorly served by telecommunications services and commit funding and priority to those areas to alleviate this disparity.

It would make absolute sense to ensure that the NBN Co never again goes private (or is floated on the ASX)⁷; keeping the NBN Co focussed on providing services – not maximising profits for its executives, and definitely not seeking a commercial return on NBN Co's wholesale infrastructure investments. These were the two competitively (commercially) based pillars that devastated Australia's world-best telecomms infrastructure services some decades before, and since then, Australia has never really recovered from this internationally driven fraudulent business strategy.

The NTN Project Failure

Starting in 1997 there was yet another very poorly thought out 'program' called "Networking the Nation" (NTN) with a brief to provide funding to localities so that telecommunications infrastructure could be put in place to alleviate the disparities in telecommunication facilities. The fundamental process with the NTN project was that the local communities had to form their own committees and present documents to the then Department of Communications, Information Technology and the Arts (DCITA) to allocate funding on a 'needs' basis to put in appropriate equipment.

Although this process sounds very straightforward to anybody in a Canberra bureaucracy, the practicability of this process was entirely flawed from the start. The local community committees had an extremely limited knowledge of the local and regional telecommunications infrastructure; so these committees were almost clueless in engineering terms of what equipment was required where and what this equipment would be connected into to so that the proposed services would be 'future proofed' and function properly. As the committees (and the DCITA) had a virtually zero to very limited knowledge of the interconnecting telecomms infrastructure and the funding ended up going to very expensively 'fix spot fires' on a temporary basis.

⁶ <http://www.moore.org.au/senh001.htm>

⁷ http://www.moore.org.au/senh/2008/2008_NBN1.htm

In many cases the funding was literally wasted on non-telecomms delivery – like for example a very expensive large screen TV for a public hall in Toowoomba, while nearby farmers had no Broadband or mobile phone facilities. Similarly mobile phone base stations and antennae towers were arranged without sufficient backhaul connectivity, and ADSL services were provisioned where the CAN lines would be far too long to work effectively, and the associated backhaul connectivity was already in network congestion – because those areas were not commercially viable for backhaul upgrades in stark comparison to metropolitan areas.

The NTN project proved to be a very expensive short-term vote-winning ploy. The NTN project really should have been entirely managed within the forward planning area of a national telecomms infrastructure body such as Telecom Australia (which successive Federal Governments had thoughtlessly crippled and disbanded after they mindlessly introduced and perpetuated the highly inefficient competitive regime some decades before).

The government now has the National Broadband Network (NBN Co) as the prime telecomms wholesale infrastructure body to provide telecommunications network infrastructure on a non-commercial basis so that almost all parts of the Australian community can be connected with equitable and future-proofed Broadband facilities. Hopefully the NBN Co will build the necessary non-commercial backhaul infrastructure that is desperately needed on non-metropolitan Australia and from that the commercial businesses outside the metropolitan areas can again flourish.

Involving ACCAN

Looking at this telecommunications under-servicing problem in another way; the Federal Government is already funding the Australian Communications Consultative Action Network (ACCAN) as the peak body for disadvantaged telecommunications customers – be it through medical, social or locality situations.

This (ACCAN) body is already well established and well-funded to identify and raise these matters to the Government – or to an existing sub-government body that is already involved with the roll-out of telecomms infrastructure – and that body is the NBN Co.

It stands to reason that as the NBN Co does its work properly and without interference from those looking for an immediate and high financial ROI, as the Broadband infrastructure is rolled out over Australia, the number of telecommunications-based complaints involving disadvantaged people should dramatically drop. This action should therefore minimise the spread of the work done by ACCAN and it can then focus and close out specific service operating issues.

Positioning the USO Co

The USO Co would be logically charged to identify localities and services that fail to meet the minimum service standards and allocate funding so that these spot-fires are corrected. It should be very obvious from the utter failure of the NTN project that the USO Co could be heading down a virtually identical path and indiscriminately waste Federal funds.

The NBN Co is already charged to have a forward engineering planning area within itself so that it can coordinate and grow the telecommunications infrastructure without unnecessary duplication. This facility in itself negates the need for the USO Co to exist and to a large degree the Telecomms Industry Ombudsman (TIO) will also have a greatly reduced workload because of the collaborative forward engineering planning that will be conducted within the NBN Co to develop, manage and contain Broadband facilities particularly in non-metropolitan areas in the first instance.

The poorly advised creation of the USO Co should be immediately stopped and this function and funding should be rolled into the (forward) engineering planning area of NBN Co. so that business and infrastructure efficiencies can be readily realised through a nationally coordinated approach and multiple managements (a major competitive regime waste factor) would also be eliminated.

Answers to Chapter 3.7

3.7(1) Should the ACMA continue to retain responsibility for levy determination / collection / distribution, or should these responsibilities (in part or in total) be transferred to USO Co?

Under the proposal that I am putting forward there will be no levy determination / collection or distribution necessary from the ACMA (so all those people can be released onto the free work market).

As NBN Co will be the sole wholesale network infrastructure provider in the medium-term future, they will automatically factor in a nationally equal price per wholesale line block that will cover these previous USO costs. This strategy will totally remove any argument about who pays what, as the amount paid will be factored into the wholesale price – irrespective of geographically where the access line is provided.

3.7(2) What are possible options to simplify and more closely align the operation of the current Universal Service Obligation and National Relay Service levy schemes?

Simply roll both of these functions into the NBN Co, and ensure that the NBN Co is never privatised – or the same mistakes will again be perpetuated; as it was when the PMG was set on a fatal privatisation course in the early 1980s.

3.7(3) Noting the previous question on the alignment of levy schemes, views are sought on whether an annual revenue threshold for levy contributors should be in place? If so, what would be an acceptable level for this threshold?

Sum the current annual USO and Relay Service, and Emergency Call Service operations costs and then divide this cost by the total number of pair copper, FTTP (including existing business lines), mobile services. This produces a nominal cost per annual service per year figure that is to be added to the nominal wholesale cost of every service and all this funding is to be transferred to the NBN Co on an annual basis to keep these operations in good working condition. This nominal value will be totally acceptable as all retail resellers will be paying an exact equivalent amount.

In due course all wholesale mobile services will be transferred to the NBN Co and the overall wholesale market will be virtually level irrespective of geographic location.

3.7(4) Should alternative arrangements be considered to determine how contributions to the Universal Service Obligation levy are calculated? For example, should the revenue base used to calculate contributions be expanded?

Refer to the answer for 3.7(3) as it is all here and in very simple English.

3.7(5) Is there justification for expanding, for example ‘horizontally’, the scope of contributors to the Universal Service Obligation levy scheme? Are there other options worth exploring?

Every Retail service needs to contain a fixed wholesale annually priced component that is fully attributable to the network growth (inclusion of new equipment and wholesale based-services) and network sustainability (replacement of end of life equipment) for the NBN Co to continue the ongoing delivery of the Broadband Telecommunications Network for Australia – including international routing, the NBN wholesale mobile phone access strategy, national Website hosting and Website mirroring in Australia to balance the traffic flow densities and future balance of payments due to Internet traffic.

3.7(6) What are the appropriate mechanisms for ensuring USO Co has sufficient resourcing to undertake its activities?

Refer to the answer for 3.7(3) and 3.7(5) as these are all here and in very simple English.

3.7(7) What other funding issues should be considered?

Refer to the answer for 3.7(3) and 3.7(5) as these are all here and in very simple English.

Answers to Chapter 3.8

3.8(1) What are the appropriate governance and institutional arrangements that USO Co should have in place? How should USO Co interact with Government?

With the USO Co as a part of NBN Co this simplified structure totally eliminates extra governance and extra institutional arrangements, and the NBN Co can communicate to the Government on the USO's behalf.

3.8(2) What mechanisms should be in place to ensure the accountability of USO Co for its operations? How should transparency of decision-making be best achieved?

NBN Co would in its natural Board operations produce monthly accounting documents that would transparently show where the funding is intended and how the funding is used.

3.8(3) What complaints/review/appeals processes should be put in place? Is there a need for some form of independent decision-maker in the event of a dispute? If so, who?

We already have the TIO for this purpose, and with NBN Co in place much of the lack of service issues will be reduced from the TIO leaving plenty of room for the TIO to radically downsize.

3.8(4) What processes should be in place to ensure USO Co is sufficiently resourced to deliver on its functions?

Refer to the answer for 3.7(3) and 3.7(5) as these are all here and in very simple English.

3.8(5) What are the appropriate powers that USO Co should be able to exercise in the delivery of its responsibilities?

The wholesale gathered funding as described in the answers for 3.7(3) and 3.7(5) should finance the USO Co requirements, so no extra powers would be necessary.

3.8(6) What is the most appropriate role for stakeholders to be engaged in USO Co's decision-making and operations? For example, would an advisory board of stakeholders to advise USO Co be a useful step? If so, how would it work? If not, what other alternatives are there?

There is an old saying that "too many cooks spoil the broth" and this situation is one of those where the function of the USO Co can be whittled down to a couple of people in part-time work can very effectively pass the funding through to the NBN Co. This is not rocket science!!

3.8(7) Are there other institutional issues that should be considered?

It is an imperative that the NBN Co is never financed into commercialisation or into the private market, but the NBN Co needs continual finance. This finance needs to come totally through the Federal Government Budget in the first instance, and from the USO Co funds that come from unit costing at wholesale rates for service provision from every service provider. In due course the NBN Co should receive all its' funding through wholesale costing of all services to the retail resellers.

What has not been resolved is a single Federal Government based non-commercial business which will be the Federal Government retail reselling point for all wholesale Broadband / telecommunications services to all Federal and State bodies.

As happened several years ago the financial markets saw the massive monetary flows in infrastructures and they plotted and schemed to get themselves into the money through privatising these essential services (and calling these discretionary commodities).

Of course the sequential disasters happened where infrastructure after infrastructure was sequentially run down to near bankruptcy as the service standards were minimised to maximise profits for the shareholders (which are not the end users).