

GQI Consulting response to the Australian Productivity Commission in relation to its November 2016 Draft Report on the Telecommunications Universal Service Obligation.

Introduction.

We are pleased to provide our comments to the Productivity commission on the draft report on the Telecommunications Universal Service obligation.

GQI Consulting is a specialist advisory company with deep knowledge in telecommunications technology architecture and networks. We often work with Carriers and other similar organisations in the planning, design and implementation of communications networks in Australia and the S.E. Asian region. We have also developed cost models for USO networks in Australia and New Zealand. We therefore propose to only comment on technical and cost matters relating to our experience with the construction and operation of communications networks which may be relevant to the delivery of the USO or similar services.

Our opinions are entirely independent, we have not been paid to provide them and do not stand to gain any financial benefit from providing them.

The TUSO lacks transparency and is overdue for reform.

Draft finding 3.1

The draft report deals with several high level estimated costs which is fine however with a little effort those costs could be more accurate. The problems associated with cost of delivery of the TUSO (and any other service) is well understood by us and based on our experience we know that it is possible to estimate the cost of provision of every service in Australia (usually annualized to deal with the different life of each network element).

Based on our experience we also know that there is a strong correlation between distance from the exchange (or point at which all local traffic is aggregated) and technology used to provide the service. We have found that close to the exchange, copper (or optic fibre which is similar in cost to that of copper but slightly more expensive) is typically the lowest cost technology to use. The cost of this technology exhibits a linear increase in as a function of distance. As the distance from the exchange increases you there is a cross over point and wireless technologies represent the lowest cost solution. Even further out Cellular radio comes into its own and even further away as the tele-density decreases Satellite proves to be the lowest cost technology. Even though the cost per service provided by satellite is comparatively high (\$10k-\$20k pa) unlike the other technologies it is flat irrespective of where that service is located throughout most of Australia.

The elephant in the room here is the location of the telephone exchange and the size of the exchange service area. Traditionally when developing these cost models, we have applied a scorched node approach which assumes the current location of Telstra's exchanges. In many cases this is historical and logical. When a new town is established the exchange is placed close to the center of that town which naturally forms the copper center. The exchange service area is that area which captures the majority of the town population provided the total length of the copper to the most distant customer does not exceed the maximum allowed by standard analogue telephones (about 12km).

However, another more efficient carrier may adopt a scorched earth approach and locate exchanges and select exchange service areas in a way which will drive a total per service cost outcome down.

Despite the apparent complications in our experience a cost modeling approach can be applied and will provide a framework for estimating the cost of potentially net loss making services. This could be

overlaid in assessing the USO cost with proposals from alternative providers who may potentially apply a different architecture.

The reason that we should concern ourselves with the calculation of the cost of providing a telephone service is that some will be lossmaking and of course some will be profitable. One of the factors that determines its profitability is the charges for the service and the other is the teledensity. If the provider of the service is to be compensated for delivering loss making services, then we need to be able to calculate the cost of providing those services. The calculation of the cost of providing the service should be based on that cost that would be incurred by an efficient forward looking provider using modern low cost technologies and processes.

Draft Finding 3.2

Draft recommendation 5.1

I totally agree that the current definition of the standard telephone service (including the narrow band data and public phone) for the purpose of the TUSO is past its used by date. That definition was by implication based on the kind of device that was analogue and operated over the 300hz – 3.4khz band. Digital transmission has long since taken over and standard communications for households and small business should be specified in terms a digital bandwidth. If telephone calls are important then there are lots of OTT applications available free that deliver that service. The standard communications service that the average household might want must have access to the internet. The question is what bandwidth should the USO be based on? We believe that question can be easily answered. We think that it should be based on a basket of standard applications that might be used by a household. A model of a usage profile should be developed and from these two components we believe that a definition of a USO could easily be developed. This could be re modeled each year to test the change in user requirements.

Draft recommendation 7.2

The provision of wholesale broadband access by NBN at a non-discriminatory price should go a long way toward providing USO services at a similar cost to end user in all areas of Australia where the quality of the wholesale service is adequate to deliver a USO compliant service. However, the cost to the retail provider (of first choice) in delivering that service may be higher in some areas than others. How this cost delta is dealt with is the subject of another discussion. However, it is possible to model this cost delta and we certainly could do that. The other part of this recommendation deals with contracting one or more retail service providers to service certain areas. Again, this cost can be modeled however the contracting arrangements may involve a competitive process which will involve the optimization of costs by the contractors. In our experience these costs should be independently verified and the impact of risk sharing between contractors and government modeled so that the contracted arrangements represent the bottom of the risk/cost curve.