



Response to Productivity Commission Draft Report on Telecommunications Universal Service Obligation

13 February 2017



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Executive Summary

nbn welcomes the Productivity Commission's Draft Report on the USO, which provides a detailed analysis of the significant shortcomings of the current USO arrangements. Given the changes to the Australian telecommunications landscape, including as a result of the introduction of the **nbn**, the time is right to reconsider the operation of the USO, and ensure it is brought up to date with the changed realities of industry structure and consumer behaviour.

In response to the Commission's Draft Report, **nbn** has proposed a model for a future USO framework which is a modification of the approaches put forward by the Commission. Baseline broadband services are being delivered by **nbn**, and the focus for USO policy should be on the supply of voice services.

nbn believes that there is a significant role to be played by mobile networks outside **nbn**'s fixed-line footprint, and that with clarity about the characteristics of the baseline voice service, mobiles could be used to a greater extent than currently proposed by the Commission. This will require clarity as to what comprises acceptable coverage and performance from mobiles. As a result of the widespread availability of mobile voice services today, there is the opportunity to commence winding back current TUSO arrangements sooner rather than later. However, additional consultation and analysis is required to finalise the details of any future USO policy, and **nbn**'s proposed approach draws out aspects that have not been fully explored in the Draft Report.

Having reviewed the Draft Report, **nbn** is concerned that the Commission may not have fully appreciated the role that **nbn** has been given by Government, and as a result has not taken into account all the factors, including relevant costs, that are required to formulate the most appropriate future direction for USO policy.

nbn's mandate is to deliver the Government's broadband policy objectives. While the details of this mandate have evolved over the years (for example, changes to the choices of technology), the central objective for **nbn** has always been to ensure all Australians have access to broadband, and to achieve this in a cost effective way. The current Statement of Expectations (SOE) articulates the Government's expectations for **nbn** as:

"... ensuring that all Australian have access to very fast broadband as soon as possible, at affordable prices, and at least cost to taxpayers."¹

As a result, in designing, planning and deploying its network **nbn** has made technological, network and operational decisions consistent with achieving the Government's broadband policy objectives and equity funding parameters². These decisions have been made in the context of the Government's broader telecommunications policy, which includes (amongst other things) a clear delineation of responsibilities and funding for the roles played by **nbn** and Telstra (including under the TUSOP Agreement, which on its current terms will be in place until 2032).

In particular, there has been a clear separation of responsibilities for the provision of voice services. **nbn**'s fixed-line networks have been designed to support legacy voice services. However, Government policy has been for Telstra to provide USO voice services outside **nbn**'s fixed-line footprint³, and as a result, **nbn** has planned and dimensioned its fixed wireless and satellite networks to support the anticipated demand for broadband services. This demand is expected to be less than 100% take-up, which is the basis on which **nbn**'s networks have been designed. To do otherwise would result in a wasteful overinvestment which would be inconsistent with the Government's policy of delivering the **nbn** at the lowest cost to taxpayers.

¹ 2016 Statement of Expectations. <https://www.communications.gov.au/file/19556/download?token=Q7Pg2NPu>

² "This statement [SOE] provides nbn with flexibility and discretion in operational, technology and network design decision, within the constraints of the Equity Funding Agreement with the Commonwealth, and the Government's broadband policy objectives.", SOE 2016.

³ In the move to the MTM model, the TUSOP Agreement was re-executed by the Government and Telstra in 2014, re-affirming Telstra's continuing role as the voice USO provider outside **nbn**'s fixed-line footprint.

It's also important to recognise that **nbn**'s network deployment is already well-progressed, and cannot change direction without incurring additional costs and delaying the rollout. As at 2 February 2017, the **nbn** fixed-line network had passed over 3.1 million premises⁴, out of a total of 10.9 million expected by the end of the rollout. Over 470k fixed wireless premises have been covered out of a total of around 600k expected to be served, while two satellites and their associated ground stations have already been launched and deployed to cover all other premises. By the end of FY17, 5.4 million premises are expected to be ready for service. *Accordingly, it should not be assumed that it is either a simple, or costless, exercise to change the design and use of this network to meet changes in policy.*

If the Commission's draft recommendation 3.1 is given effect and the TUSOP arrangements are wound back, the likely effect would be the migration of services from Telstra's networks, leading to an increase in demand for **nbn**'s fixed wireless and satellite services, driving more costs on to the **nbn**. *This would be the case even if no additional obligations were placed on **nbn**.*

nbn already incurs significant losses from providing non-commercial services outside its fixed-line footprint, as quantified by the Bureau of Communications Research and acknowledged by the Commission. The Commission's draft recommendations would have the effect of increasing the scope of what needs to be delivered in these footprints, generating additional losses that would need to be quantified and funded.

nbn acknowledges the work the Commission has done to date in attempting to quantify the costs currently associated with the delivery of USO services, particularly in light of the opacity relating to the number of USO services and true cost of provisioning to these premises. However, **nbn** does not consider that any sound policy can be developed for the future delivery of USO services without accurately quantifying the costs (both direct and consequential) of the Commission's proposed recommendations. **nbn** does not consider the Commission has as yet considered the full gamut of costs that would flow from their proposed approach.

A key consideration which needs further attention from the Commission is to specifically and clearly define the required minimum features of the baseline voice service. Without this definition, it is difficult to evaluate the potential suitability of networks such as mobile, fixed wireless and satellites, to supply the baseline voice service. This issue needs to be addressed before any future USO policy can be properly developed.

In **nbn**'s view, the role played by mobile networks in delivering the baseline voice service needs to be made explicit, and the nature of any funding or guarantees relating to service availability should be clearly addressed by the Commission in their final report. In the fixed-wireless footprint in particular (but also in the satellite footprint where there is mobile coverage), **nbn** believes that mobiles can provide a cost-effective solution for the delivery of voice services in many locations. Whichever networks are used to deliver baseline services when the TUSOP arrangements are unwound should have any incremental costs recognised and appropriately funded.

This submission is incremental to the one provided to the Commission by **nbn** in July 2016⁵ ("the July Submission"), and should be read together with that submission. This response only addresses specific aspects of the Commission's Draft Report, and **nbn**'s views from the July Submission otherwise remain unchanged.

Section 1 outlines a proposed model for a USO framework, modifying the approach suggested by the Commission, based on the Draft Report findings and further evaluation by **nbn**.

Section 2 identifies the implications for **nbn** should the recommendations of the Draft Report be implemented, and highlights that it would not be a trivial exercise for **nbn** to take on Telstra's current obligations.

Section 3 discusses issues within the Draft Report where **nbn** believes further detail and thinking is required from the Commission before finalising their positions.

Section 4 provides additional specific responses to matters raised in the Draft Report which are not addressed in the first three sections, and which are generally matters of detail rather than policy.

The **Appendix** lists the Draft Report's findings and recommendations, and **nbn**'s response to them.

⁴ 2.82M brownfield premises were ready for service (RFS) and over 339k greenfield lots had been passed at that date.

⁵ http://www.pc.gov.au/data/assets/pdf_file/0014/203135/sub047-telecommunications.pdf

1. **nbn**'s proposed model for a future USO framework

Having reviewed the Draft Report, and reflecting on a range of issues that are discussed in later sections of this response, **nbn** considers it useful to start by articulating some of the key features of an integrated approach to the *availability* of universal services. We acknowledge that further work would be required by the Commission and/or Government to finalise all aspects, but the approach outlined below identifies the issues that need to be explicitly addressed, as well as some initial thoughts on how those issues could be addressed.

In summary, the model suggested by **nbn** has the following key elements:

- 1) No additional policy changes are required to ensure universal availability of *broadband* services, given **nbn**'s role and Government broadband policy and consequential market developments to date;
- 2) A baseline voice service must be clearly defined, identifying its key functional and technical characteristics, which should be technology neutral to the greatest extent possible.
- 3) The role of mobiles needs to be made explicit in the delivery of USO services. Where mobile services are reliably available, this should satisfy the requirements for baseline voice services;
- 4) The TUSO and the existing TUSOP arrangements can therefore begin to be wound back immediately, commencing in areas with mobile coverage;
- 5) The focus of any remaining Government intervention should be for premises for which mobile services are not reliably available. A targeted solution as described by the Commission should be provided, with appropriate funding;
- 6) To the extent that changes to the TUSO policy and existing TUSOP arrangements result in network infrastructure providers incurring additional costs to supply voice and/or broadband services, these costs must be explicitly acknowledged, with targeted funding provided to compensate those costs⁶.

Each of these elements is described in more detail in the remainder of this section.

1.1 No additional change required to ensure universal *broadband* access

No additional intervention is required to ensure all Australians will have access to an appropriate baseline *broadband* service as a result of the deployment of the **nbn** (and infrastructure deployed by other operators in competition with **nbn**). Details of the current policy and legislative settings which ensure this outcome is achieved are provided in section 2 below, and in section 1.2 of our July Submission.

1.2 The baseline *voice* service must be clearly defined

There is a fundamental gap at the heart of the Draft Report; which is exactly what it is that constitutes an acceptable baseline voice service that consumers can expect to receive. Without this, it is difficult to identify the most appropriate technical solution, and to determine the cost of delivering the baseline voice service. The Draft Report discusses the notion of a 'functional definition' of a baseline broadband and voice service in the following terms "*The Commission favours an approach to defining the quality of a baseline service as one that is reliable and intelligible, especially in emergency situations*"⁷, and then expands on the notions of 'reliable' and 'intelligible'.

However, the Commission does not appear to articulate what this would mean in practice for the voice component of any baseline service that is expected to be available to all Australians. As noted on page 164 of the Draft Report, "*it is difficult to incorporate the Commission's functional definition when assessing the reach of the market without defining a baseline standard in technical terms*". **nbn** agrees with this comment.

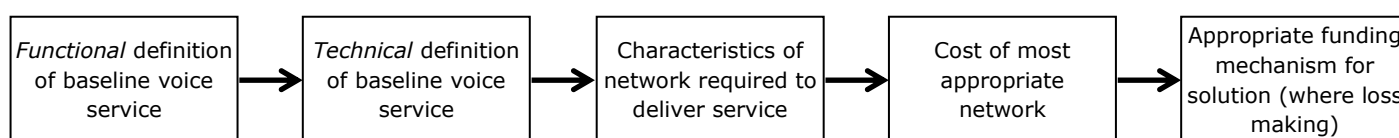
⁶ For the reasons discussed in later sections, an increase in the demand for **nbn**'s fixed wireless (and/or satellite) services flowing from changes to the USO policy will increase **nbn**'s losses involved in delivering those services. However, to assess and endeavour to quantify the nature and magnitude of the impact for **nbn** (or any other infrastructure provider that would incur additional costs) requires more information about the baseline voice service and the number and location of premises without access to such a service.

⁷ Draft Report, page 159

Clarity as to what the minimum acceptable characteristics for a universal baseline voice service are is a critical element of any future universal service regime. Without this, it is not possible to reach a conclusion as to:

- Whether mobile services are an appropriate baseline voice solution, and if so, what functionality those services should have, or indeed, what it means for a location to be “covered” by a mobile network?
- Is a voice service provided over **nbn**’s fixed wireless network actually acceptable, as assumed by the Commission, or are there features of it that would mean it is not suitable for baseline voice services?
- Can **nbn**’s satellite solution deliver an appropriate voice solution, given its inherent latency and the characteristics of the spectral bands used to deliver services?
- How many people would not have access to a baseline voice service without targeted intervention?
- What options are available outside the mobile footprint?

The fundamental role played by the definition of the baseline voice service is illustrated below:



Further consultation with consumer and industry stakeholders will be required to address this issue, but **nbn** believes that the definition of the baseline voice service is a critical matter to resolve before attempting to finalise any USO policy. As evidenced in submissions to the Inquiry to date, there are strongly held views as to what voice services are seen to be acceptable (or not) by customers who live in regional and remote areas. These views need to be acknowledged and addressed by the Commission and Government by clearly laying out what is, and is not, an adequate baseline voice service, and how it differs from the service that has typically been provided by Telstra to date. Defining this baseline service can no longer be avoided.

The Commission appears to be suggesting that the technical definition of the baseline service (including reliability) should be dealt with by the proposed Government review of telecommunications consumer safeguards, which may be an appropriate process to develop an appropriate definition, but makes it difficult for the Commission’s current Inquiry to come to a definitive landing place. **nbn** submits that this issue must be dealt with before an integrated solution to the future provision of universal services can be developed.

However, for the purposes of describing our model, **nbn** will assume for now that both mobile networks and **nbn**’s fixed wireless network would be *capable* of delivering the required baseline voice service, and that **nbn**’s satellite network would not be able to do so. There appears to be no reason why mobile networks would not form part of the solution in the fixed wireless footprint, provided they are reliably available at a customer’s location. They are designed for voice services, already exist, and can potentially provide voice services at lower incremental cost than the **nbn** fixed wireless network, which is optimised to deliver broadband services.

1.3 The role of mobiles needs to be made explicit

nbn sees a greater role in universal service provision for existing mobile networks where they are reliably available, and this option should be considered in greater detail by the Commission than was the case in the Draft Report. If, as **nbn** believes, the Commission sees mobiles as playing a role in delivering the baseline voice service, this needs to be made explicit, and the expectations of end-users for their voice service should be made clear.

The role played by mobiles outside **nbn**’s fixed-line footprint should be a focus for the Commission’s further analysis. Whether broadband is being provided by **nbn**’s fixed wireless or satellite networks, the role of mobiles in providing baseline voice services is the critical issue to address. Some of the issues that would need to be addressed include:

- What constitutes “mobile coverage” – e.g. what signal strength is considered appropriate, and how is the notion of “in-building” coverage addressed?

- What are the service outcomes for end-users if mobile coverage is not available at their premises?
- Should the availability of competitive mobile services be a factor in defining the mobile footprint for the purposes of the universal service, or is a single network sufficient in these more remote areas?
- Will end-users have the option to receive calling plans similar to today's fixed-line services when the service is being supplied to their premises? **nbn** notes that at the retail level there are a range of mobile plans, both pre-paid and post-paid, aimed at different consumer needs, which could (depending on the number of calls made) be cheaper than fixed-line voice services.
- Are the concepts in the customer service guarantee and other consumer safeguards applicable if mobile networks are used to deliver the baseline voice service?

The Commission appears to consider that mobile networks should not play a formal role in delivering the baseline voice service in **nbn**'s fixed wireless footprint. This is inconsistent with the role they see mobiles playing in the **nbn** satellite footprint, and no explanation is offered for this different treatment. **nbn** notes that the Commission has correctly identified one of the current issues with the USO, but does not attempt to explore further the role that mobiles could play going forward:

While Telstra may use a range of technologies (for example, copper, radio and satellite) to meet its obligation, it is unable to use other technologies that might be more cost-effective (for example, nbn's fixed wireless). Hence, the TUSO is not strictly technologically neutral.⁸

In **nbn**'s view, existing mobile networks provide at least as cost-effective a solution as **nbn**'s fixed wireless service for the delivery of voice, but the Commission has not addressed this option at all. **nbn**'s position is based on the following:

- Mobile networks overlap with the vast majority of **nbn**'s fixed wireless network already (there may be some isolated edge cases where mobiles are not available, but this appears to be minimal);
- Mobile networks have explicitly been designed to deliver voice services, unlike **nbn**'s fixed wireless network;
- Substantial investments have already been put in place by mobile operators in the fixed wireless footprint, with multiple providers providing coverage throughout much of the fixed wireless footprint. This suggests that there should be sufficient capacity to absorb additional voice services.
- The incremental cost to supply a mobile voice service to an end-user is less than that for the fixed wireless network, as only a mobile handset is required to deliver a voice service. **nbn**'s fixed wireless network requires the installation of an antenna and network termination device (NTD) at a premises, and for power to be available at that premises;
- If there is a power outage at a premises, **nbn**'s fixed wireless service will not function, whereas a mobile service will continue to operate while the battery remains charged;
- Telstra has already demonstrated that (if required) it is possible to deliver voice services to end-user premises using their mobile network - providing almost all of the same features as their fixed-line network does today. The Next G Wireless Link service⁹ has the same calling rates as Telstra's HomeLine products, "...as if the service were a Basic Telephone Service", with the key difference being that the service is not eligible for the Customer Service Guarantee or Priority Assistance. This existing product is likely to satisfy the requirements of any new baseline voice service for universal service purposes.

⁸ Draft Report, page 95.

⁹ <https://www.telstra.com.au/content/dam/tcom/personal/consumer-advice/pdf/consumer/wirelesslink.pdf>

Rather than arriving at a solution which would have the effect of requiring **nbn** to invest in additional capacity to deliver additional loss-making services, which are not part of its current scope of activities, it would surely be more cost-effective to make clear the role that mobile networks should play. As noted by **nbn** in its July Submission to the Commission (section 2.3.2, page 13), this does not mean that we are advocating for mobility to be delivered as part of the baseline voice service; but rather that mobile networks should be able to be used to deliver the baseline voice service.

1.4 The TUSO and TUSOP arrangements can be wound back now in most areas

As described in section 2.2, **nbn**'s fixed-line network has been designed to support voice services, which means that once it is deployed, all premises should be able to receive a voice service. The Commission has also identified that some form of mobile coverage is available to 99.3% of the population, which is also capable of providing voice services. Acknowledging that some locations within that footprint may not be able to access voice services inside their premises, it is clear that the vast majority of Australians will also have access to a baseline voice service *outside* **nbn**'s fixed-line footprint.

With that being the case, if the Commission believes that mobiles are a suitable means of delivering voice services, there is no need to impose an *obligation* on service providers to deliver voice services within the mobile footprint. There does not appear to be any impediment to providing a voice service to end users who are able to receive a mobile service within their premises, and it is only those premises that do not have 'in-building coverage' which will need to have a targeted solution developed. **nbn** notes that these targeted solutions would need to be provided not only within the **nbn** satellite footprint, but in other areas where in-building mobile coverage is not available.

With the removal of the obligation to deliver voice services in most locations, the TUSOP arrangements should also be wound back, and any funding programs directed at areas in which there are premises without mobile coverage (section 1.5) and to compensate infrastructure owners for cost increases that arise from changing the current TUSO and TUSOP (section 1.6). Given the current availability of voice services over mobile networks, it would be reasonable to commence winding back these arrangements now.

1.5 A targeted solution is required where there is no mobile coverage

nbn agrees, up to a point, with the Commission's suggestion that the focus of intervention should be premises outside the mobile footprint where the only option is **nbn**'s satellite service. However, **nbn** would expand this targeted approach to address any other areas without mobile coverage outside **nbn**'s fixed-line footprint (which is designed to support voice services).

The Commission has suggested three options for addressing the "gap" in provision of baseline voice services in areas without mobile coverage, each of which has some merit. In **nbn**'s view, the assessment of these three options should consider the following factors:

- **Implementation complexity** – This is primarily related to the time required to firstly agree what the details of the option look like, and then the time taken to implement it. It may be preferable to select an approach that is feasible to have in place as soon as possible, given the widespread availability of mobile networks, rather than a 'perfect' solution which takes years to finalise.
- **Total cost to implement** – This will depend on a variety of factors, including the nature of the baseline voice service, the actual footprint that needs to be addressed (which relates to both the definition of the baseline service and the technical specification of existing networks), existence of infrastructure that can be used to deliver the baseline service, and any benefits flowing to the provider of infrastructure (e.g. if mobile networks are funded as part of the solution, the additional revenues generated from mobility customers, and brand benefits of increased network footprint).
- **Competition benefits** – To the extent deemed important relative to the first two factors, the implications for competition (either at the infrastructure or retail level) should be taken into account.

Of the three options identified by the Commission, Option 2 (funding Telstra's ongoing provision of services in areas without mobile coverage) is likely to best meet the first two criteria above, as it will already have

infrastructure in place to deliver voice services in most locations, and there are already agreements in place that could be adapted for this purpose. However, **nbn** understands the Commission's concerns about the ability to get the best competitive outcomes with this approach, and why Option 1 might therefore be attractive.

At this stage, **nbn** is not convinced that sufficient analysis has been undertaken by the Commission to come to a definitive position on the best option, as also discussed in section 3.4. **nbn** would be happy to work further with the Commission to help work through the issues involved here, to ensure the most cost-effective and suitable approach to addressing the needs of people living in these areas is identified.

1.6 The impact of policy changes on network providers needs to be addressed

Once the TUSO obligations for voice have commenced winding back, **nbn** expects that Telstra would make commercial decisions to transition *loss-making* voice customers from its fixed-line networks (and fixed radio and USO Sat) to other networks. The Commission appears to have assumed that this would either be **nbn**'s fixed wireless network, or some combination of mobile networks and **nbn**'s satellite network, depending on location. As already discussed, **nbn** believes there is a significant role for mobile networks to play in the fixed wireless footprint, which the Commission has not addressed.

In section 3.2, **nbn** submits that the Commission has not explicitly addressed the fact that changing the TUSO and TUSOP arrangements could result in additional costs being incurred by **nbn** on its fixed wireless network. These costs should be acknowledged and explicitly funded. However, in proposing the approach described here, **nbn** acknowledges that there may also be additional costs arising for mobile operators as a result of additional demand for voice services which would also need to be funded.

To the extent that changes in TUSO arrangements result in additional costs being driven into the operations of any network provider who supports the delivery of baseline voice services, these costs should be recognised and funded. These incremental costs would need to be based on the changes that arise as a result of unwinding the current TUSO and TUSOP arrangements, and account for the changes in demand on each network.

These costs must then be explicitly funded, and factored into the other funding considerations outlined by the Commission in Chapter 9 of the Draft Report.

2. **nbn** has a defined role that must be taken into account

In considering the future arrangements for the USO, it is important to fully take into account the roles already being played by **nbn** and other parties. **nbn** has been set up to fulfil clearly defined objectives, within the framework of current policy and industry settings. It has not been established to provide voice services to all locations, and changes to USO policy that resulted in **nbn** being expected to do so would increase the time and cost involved in **nbn**'s deployment. It cannot be assumed that it is a costless or trivial exercise for **nbn** to take on activities which are currently the responsibilities of other parties.

In this section, **nbn** wishes to correct the position that has been adopted by the Commission throughout the Draft Report - the assumption that **nbn** has been set up to provide both broadband and voice services to all premises in Australia. This is perhaps best encapsulated on page 205 of the draft report - "*Options to address universal availability should leverage off NBN infrastructure, as it is designed to provide wholesale broadband (including voice) services to all Australian premises...*" This is simply an incorrect characterisation of **nbn**'s role.

2.1 **nbn** has been established to deliver broadband policy outcomes

The Government has given **nbn** clear objectives, which primarily relate to the provision of broadband services to all Australians. These objectives have been spelt out in the successive Statements of Expectations (SOE) provided to **nbn** by its Shareholder Ministers, and address issues such as access, speeds, availability and cost effectiveness of the services to be provided by **nbn**. This has provided important guidance to **nbn** management as to what it should and should not do, and allowed it to plan its operations to most effectively and efficiently meet its objectives.

Some key elements of the SOEs that are relevant in the USO context include:

Access: **nbn** is required to ensure that all Australians have access to broadband.

"...ensuring that all Australians have access to very fast broadband as soon as possible, at affordable prices, and at least cost to taxpayers."
SOE 2014 and 2016¹⁰

Broadband speeds: clearly defined speed objectives are outlined.

"...the network will provide peak wholesale download data rates (and proportionate upload rates) of at least 25 megabits per second to all premises, and at least 50 megabits per second to 90 per cent of fixed line premises as soon as possible."
SOE 2016

Cost Effectiveness: In achieving the Government's broadband policy objectives, **nbn** is expected to build its network in a cost effective manner, and to operate on a commercial basis.

"To achieve these objectives nbn should roll-out a multi-technology mix network and build the network in a cost effective way using the technology best matched to each area of Australia."

"During the rollout of the network, nbn is required to carry out its rollout objectives as cost-effectively and seamlessly as possible."
SOE 2016

Thus, while there is understandably a focus on *what* **nbn** has been asked to deliver, this cannot be separated from the *manner* in which **nbn** has been asked to undertake this task. In developing its approach to implementing the Government's broadband policy, **nbn** must determine the most cost-effective way to do so.

¹⁰ The original SOE, provided to **nbn** by the previous Government in 2010, stated that 'The government's central NBN objectives are to deliver significant improvement in broadband service quality to all Australia, address the lack of high speed broadband in Australia...'

2.2 nbn's scope has been clearly delineated from Telstra's

The objectives outlined above are not the only considerations for **nbn** as it plans and deploys its networks. The broader industry context, particularly the role being played by Telstra as the current incumbent infrastructure provider, is critical. In establishing and implementing the **nbn**, successive Governments have recognised the role currently played by Telstra as well as the role expected to be played in future, and captured this in long-term arrangements. This has allowed **nbn** to plan its scope of operations by identifying those areas for which **nbn** does *not* have responsibility. Of particular importance for USO considerations is the role played by Telstra in providing voice services.

nbn's original SOE in 2010 contemplated that **nbn** would only support voice services in its fibre footprint.

"In the transition to the NBN, telephony services will be available at all times"

"NBN Co should provide a back up battery with all network termination equipment deployed in the fibre footprint, ensuring continuation of telephone capability in the event of a power failure for standard, non-powered home telephones."
SOE 2010

By way of contrast, in **nbn**'s wireless and satellite footprints, the original SOE stated that the Government would fund Telstra to continue to provide voice services for a 10 year period.

"In those areas served by wireless and satellite technologies, ... USO Co will fund Telstra to provide copper based phone connections for a ten year period commencing in July 2012 for those consumers wishing to continue that service."
SOE 2010

The Government's clear intent to delineate responsibility for voice services between Telstra and **nbn** was formalised in the TUSMA (now TUSOP) Agreement between Telstra and the Government in 2011, which required Telstra to continue to operate its copper network outside **nbn**'s fixed-line footprint, and to provide a USO voice service on request for a 20 year period (to 2032).

The TUSOP Agreement also plays a key role in defining the scope of **nbn**'s responsibilities, in both its fixed-line footprint, as well as its fixed wireless and satellite footprints. The Agreement must be seen as part of the overall package of arrangements and agreements in relation to Telstra and **nbn**, which support **nbn**'s objective of delivering the Government's broadband policy outcomes.

Subsequent SOEs have not changed the intended roles of Telstra and **nbn** in providing voice services, but rather have confirmed **nbn**'s key objective is to provide wholesale *broadband* services. In addition, when the move to the Multi-Technology Mix (MTM) model was made, the TUSOP Agreement was re-executed, confirming Telstra's continuing long-term role in providing voice services. Thus, the expectation that Telstra would maintain its copper network to deliver voice services outside **nbn**'s fixed-line footprint, and be funded to do so, has been a long-standing and consistent part of **nbn**'s external settings. This long-term certainty has allowed **nbn** to plan, design and deploy its network to meet its policy objectives in an efficient manner.

As a point of clarification, **nbn** notes that its networks do not provide a "voice service" as such, but rather they provide the option to acquire TC-1 AVCs and CVCs which can be used as inputs to a voice service by a retail or wholesale provider. **nbn** only offers a Layer 2 Ethernet bitstream service between the end-user premises and its Points of Interconnection, with all other switching, functionality, numbering and end-user equipment being provided by other parties.

2.3 The settings for universal broadband access already exist

nbn reiterates the position put forward in its July Submission– once the **nbn** has been fully deployed, all Australians will have the ability to access a broadband service. This is not just via the policy objectives outlined in **nbn**'s SOE, but also by the operation of associated regulatory and legislative arrangements such as (currently) the Telecommunications in New Developments (TIND) policy, the declaration of the SBAS (Superfast Broadband Access Service) and LBAS (Local Bitstream Access Service) and the 'level playing field' regime in parts 7 and 8 of the Telecommunications Act 1997 (Cth) which operate together to ensure that access to

broadband services of at least 25Mbps should be available. The proposed Telecommunications Reform Package legislation which, amongst other things would “*formalise the Australian Government’s commitment to a ubiquitous National Broadband Network by establishing a Statutory Infrastructure Provider regime to ensure people in Australia can access a superfast broadband service, no matter where they live or work*”¹¹, will formalise in legislation the objectives already described in **nbn**’s SOE, but are not intended to change what **nbn** is already delivering. Thus, in order to ensure that baseline broadband services are available, no additional policy or legislative changes should be required. The key challenge, as discussed further in this submission, relates to the provision of an appropriate voice service to all Australians.

2.4 Guided by its scope, the rollout of the **nbn** is well underway

The deployment of the **nbn** is no longer a theoretical exercise. It is well-progressed, particularly in the fixed wireless and satellite footprints which are the focus of the Commission’s Inquiry. **nbn** has planned, designed and is currently deploying its networks, to deliver its broadband mandate to meet its SOE, including for cost effectiveness. This is particularly important in the case of the higher cost fixed wireless and satellite networks, which are acknowledged to be loss-making.

In deploying its networks, an important consideration for **nbn** is both current and future expected demand for services. This is to ensure that the network has *appropriate* capacity to meet the expected needs of end-users – that is, enough to meet reasonably foreseeable demand, but not to over-invest in capacity for the future without a basis for doing so. **nbn** is using forecasts about the take up of broadband services and has had regard to the Government’s expectations as well as the external industry, legislative and policy landscape. This includes Telstra’s role under the TUSOP Agreement to deliver voice services outside **nbn**’s fixed-line footprint. Overall, **nbn** currently expects overall take up of broadband services to be around 73-75% beyond FY20¹².

However, the take up in fixed wireless and satellite areas is expected to be lower than this overall average, in part because **nbn** is not expecting to support voice-only services on these networks, and the presence of copper networks which (in some areas) provide ADSL services. By way of example, the Fixed Wireless and Satellite Review conducted by **nbn** in 2014 estimated that the take-up of services in the satellite footprint would be in the range of 50-65%, and in fixed wireless areas would be 40-55% by FY21. As part of its approach to deploying these high-cost networks in as cost-effective a manner as possible, these lower take-up forecasts form part of the approach to dimensioning these networks. If, for example, **nbn** had always been expected to support voice service in all areas, this would have resulted in different take-up estimates, and different network dimensioning from that which has been implemented.

For **nbn** to dimension these loss-making networks in any way other than to address anticipated demand could result in an over-investment in capacity that may never be used. It would neither be prudent, nor consistent with Government expectations, for **nbn** to provide capacity or service specifications beyond that required to meet currently anticipated and forecast *broadband* demand.

A significant proportion of **nbn**’s network is already in place and servicing end-users. Planning and design for much of the remaining footprint is also well advanced. As at the 2nd of February 2017¹³, the key network deployment metrics were as follows:

- 3.16 million premises in fixed-line areas were either ready for service (brownfields) or passed (greenfields) out of an expected total of 10.9 million premises;
- over 470k premises in fixed wireless areas were covered, out of an expected total of around 600k;
- 410k premises were covered by the two **nbn** satellites.

¹¹ <https://www.communications.gov.au/have-your-say/consultation-telecommunications-reform-package>

¹² **nbn** Corporate Plan 2017, page 39.

¹³ See rollout information summary at <http://www.nbnco.com.au/content/dam/nbnco2/documents/nbn-rollout-metrics/nbn-rollout-metrics-02022017.pdf>

Thus, particularly in relation to the satellite and fixed wireless footprints, the networks are substantially in place, having being designed to meet the Government's current broadband policy requirements. In relation to these networks, **nbn** notes that the network termination devices (NTDs) which are installed in each end-user's premises have not been provisioned with a UNI-V port (which can have an existing analogue telephone handset plugged into it if the RSP supports delivery of voice). RSPs therefore need to ensure they are able to support the delivery of voice services on customer equipment they deploy themselves, which can also require additional end-user education to ensure voice services are appropriately set up.

2.5 Changing **nbn**'s scope would have significant impacts

An understandable focus of the Draft Report is the provision of voice services outside **nbn**'s fixed-line footprint. However, the Commission appears to assume that it would be easy for **nbn** to take on a greater role in relation to the provision of voice services (particularly in the fixed wireless footprint), which is incorrect. In particular, **nbn** is concerned that the Draft Report's Findings 6.1 and 6.2 do not take into account the cost and resource implications for **nbn**.

The Draft Report makes the following statement which appears to underpin much of the Commission's thinking about the potential use of **nbn**'s fixed wireless network:

*...the Commission considers that the NBN fixed-line and fixed wireless infrastructure offers a high quality voice service which can be either managed or Over-the-Top. (page 106, **nbn** emphasis)*

The fact that any particular fixed wireless connection is *capable* of delivering an acceptable voice service is not the same thing as saying that **nbn** could provide such services to all premises in the footprint without incurring additional costs or having to invest in new infrastructure or acquire new spectrum. In addition, there would likely be consequential changes to the network boundaries of the fixed-line, fixed wireless and satellite footprints, as **nbn** would need to reconsider the most cost-effective deployment of its network to meet the additional demand, including taking into account any issues associated with the availability of spectrum. The Commission cannot simply conclude that because voice services can be delivered over the fixed wireless network, that **nbn** would not incur additional costs if it was expected to do so instead of Telstra.

Importantly, even if USO policy did not change in a manner which directly obligated **nbn** to deliver additional services (e.g. voice in its fixed wireless footprint), additional costs may still be incurred by **nbn** as a consequence of policy changes. For example, if the TUSOP and Copper Continuity arrangements were wound back and Telstra was no longer required to support the delivery of voice services, it would likely be the case that Telstra makes the commercial decision to stop providing loss-making services over its own networks. This would lead to an increase in demand for **nbn** services in those areas, resulting in additional loss-making services being delivered by **nbn** – this would include both the migration of voice-only services as well as those currently happy to remain on ADSL broadband services in those areas. Thus, the *indirect* effect of policy changes could have significant adverse implications for **nbn**.

While the Commission *may* be correct to state that Telstra could provide a voice service in a more cost-effective manner over **nbn**'s fixed wireless network than on its own fixed-line network, **nbn** submits that is likely to be cheaper still for Telstra to provide a baseline voice service over its own mobile network where it is already in place. Thus, given an appropriate definition of the baseline voice service, **nbn** considers that the most cost-effective solution would be for Telstra to provide such a service via its mobile network. This is not to deny that in *some* areas, the **nbn** fixed wireless network could be the more effective solution, but it is unlikely that this is the case for *all* areas.

As noted by the Commission, the Bureau of Communications Research (BCR) has estimated the net losses involved in **nbn** providing wholesale broadband services to premises in its fixed wireless and satellite footprints. The final report from the BCR on this matter¹⁴ revised its estimate of the net losses faced by **nbn** to \$9.8 billion in net present value terms, with the *monthly* per-service losses estimated to be \$110 for each satellite service

¹⁴ Bureau of Communications Research, *NBN non-commercial services funding options—final report* (March 2016) <https://www.communications.gov.au/publications/nbn-non-commercial-services-funding-options-final-report-march-2016>

and \$105 for fixed wireless. *This is at the heart of **nbn**'s concerns with proposals that result in these networks being required to supply additional services.*

2.6 The use of **nbn**'s satellite for the primary voice service presents challenges

The Commission examines the potential role of **nbn**'s satellites for the provision of voice services, and notes that:

*At this stage, the Commission has not made a call about the adequacy of **nbn**'s satellite voice services from an acceptable baseline perspective and is seeking further feedback on this issue. (page 179)*

In this section, **nbn** provides its feedback.

The key issue in considering the suitability of **nbn**'s satellites to supply voice services is to understand that our satellite service was specifically designed and engineered to optimise *broadband* performance, consistent with Government broadband policy objectives. Primary voice service provision was not a required part of the specification. As a result, there are *intrinsic* features of **nbn**'s satellite design that create challenges for delivering voice services and cannot be retrospectively addressed given that the satellites are in operation, including:

- "Double hop" latency is unavoidable – that is, voice calls between two satellite end-users must traverse the earth-satellite path four times in each interaction.
- The spectral band used for the **nbn** satellites has been chosen to optimise *broadband* performance. This band is more susceptible to rain-fade issues which may impact on the network availability for voice services compared to spectral bands that could have been chosen if voice was the primary service.

The Commission refers to the **nbn** satellite's target reliability of 99.7% in a number of places and compares this to the performance of other networks. However, it is important to recognise that this is an availability target in relation to the satellite's availability to provide broadband services, rather than measured performance outcome (it being too early in the lifecycle of **nbn**'s satellite network to provide definitive statements about actual performance). It is also the case that the availability target for satellite has a number of exclusions for factors beyond **nbn**'s control such as weather, solar activity, satellites transiting the sun, rain fade and radio-frequency interference, which may reduce the actual availability that is achievable for voice services.

If **nbn** satellites were expected to carry the primary voice services that are currently delivered by Telstra under the TUSOP Agreement, there would be a number of potential impacts for **nbn**:

- Additional TC-1 traffic capacity would need to be reserved to cater for these voice services. This will impact on the TC-4 capacity that is available for broadband services, which could have adverse consequences for all users.
- As a result, **nbn** may need to rework the satellite footprint boundaries to ensure demand does not exceed the available capacity. This would then lead to network redesign of other parts of **nbn**'s networks (including but not limited to the fixed wireless footprint).

If **nbn**'s satellites were to be used as the primary voice network, it would be necessary to carefully analyse the impact that any natural disasters or emergencies in an area would have on individual satellite beams that service that area – i.e. what the risks of network congestion would be, and whether that would impact on customers' ability to make calls or access the internet.

As noted in section 2.4, the NTDs installed for **nbn**'s satellite services do not include a UNI-V port (which can have an existing analogue telephone handset plugged into it) so that an RSP must support the delivery of voice services on customer equipment they deploy themselves.

3. The Commission's proposed approach requires further detail

While the Commission has set out many of the significant issues that need to be addressed in formulating a new approach to the USO, **nbn** believes that there are other important aspects that need to be explicitly addressed before the Commission finalises its position. There are potentially significant implications for **nbn** if the proposals in the draft report were to be implemented, and the report is currently silent on how these costs would be addressed, if at all.

3.1 All costs need to be accounted for

The history of the USO has been beset by disputes over the actual costs faced by the provider of universal services. The difficulties of determining the current cost of the USO are acknowledged by the Commission. However, **nbn** is concerned that the Draft Report does not appropriately recognise all the relevant costs that now need to be taken into account in reaching the most appropriate approach to future universal service arrangements. To be clear – it is not that these costs have not been quantified, which we acknowledge is a significant undertaking, but rather that the Draft Report does not explicitly identify that certain types of costs will even *need* to be included in developing the new approach and funding provided for them.

3.2 Incremental **nbn** costs need to be acknowledged

While the Commission has noted **nbn**'s concerns about the implications of changing the services **nbn** would deliver over its fixed wireless and satellite networks, the Commission does not appear to believe that **nbn** would in fact incur any additional costs, as it states (page 178) that "*However, a moderate increase in demand for fixed wireless and satellite services may not necessarily impose a higher net cost on nbn.*" After some cursory discussion, the Draft Report dismisses the need for any further consideration of this issue, and these costs are not addressed as relevant factors in developing a revised approach to delivery of universal services. Thus, funding of these costs is not addressed further in the Draft Report. As a result, any new approach developed will be incomplete, and not reflect the overall cost to society.

Of particular concern to **nbn** are the costs associated with any expansion of **nbn**'s scope of activities beyond those that arise from current Government policy and consumer behaviour. As already discussed in section 2, **nbn** is fulfilling its current mandate in a cost-effective manner. While there is potential for **nbn** to over- or under-estimate demand for its services in particular locations, this is **nbn**'s risk to manage within its current scope of operations. A change in USO policy of the type contemplated in the Draft Report introduces additional costs to **nbn** that it would not be compensated for. This is not an acceptable outcome.

At a high level, the additional costs faced by **nbn** as a result of any expansion of its scope of activities to deliver voice services outside its fixed-line footprint if the current TUSOP were wound back include:

1) **Additional infrastructure required to be deployed, as well as spectrum:**

Each fixed wireless network serving area has been dimensioned on the basis of the estimated take-up of broadband services, to ensure it has capacity and spectrum to meet that demand. If additional demand was generated by the transfer of voice customers to the **nbn** which exceeded the designed capacity and available spectrum, **nbn** would need to invest further in infrastructure and acquire additional spectrum (to the extent it is available) or reconfigure/upgrade existing installations. Alternatively, other network solutions (e.g. fixed-line) may need to be considered. Expanding the fixed wireless capacity may involve investment in additional radio network equipment, base station housing equipment, transmission and core networks, new base stations and additional connections at end-user premises. Where this is not immediately possible, there may be short to medium-term impacts for existing broadband users in that location, as there will not be as much capacity available to deliver broadband services.

2) **Additional loss-making end-user connections required to be made:**

The connection costs for fixed wireless and satellite services are significant, as they require installation of antennae in more remote locations, with longer travel times for field workforce. Additional demand driven by USO policy changes increases the magnitude of these costs and thus **nbn**'s losses.

3) **Network boundary re-design:**

Potentially the most significant issue for **nbn** to address if it was expected to support voice services everywhere would be the need to redesign the footprints of its networks to address capacity issues in as cost-effective a manner as possible. As there would likely be capacity limitations in some fixed wireless and satellite locations, all investment options, including using fixed-line networks in fixed wireless areas, and fixed wireless networks in satellite areas, would need to be evaluated. However, as the satellite network has already been deployed, and substantial investment has already been made in the fixed wireless network, **nbn**'s ability to optimise its networks to address any changed scope is constrained. A re-evaluation of network footprints is a significant exercise, and could have material cost and timing implications for **nbn**'s deployment.

3.3 Funding of incremental **nbn** costs needs to be addressed

Because the Draft Report does not acknowledge the incremental costs that would be faced by **nbn** as a result of introducing a new approach, it also does not address the need or mechanism for funding such costs. This needs to be addressed in the Commission's Final Report. In the same way that the Draft Report identified that funding may be required to deliver voice services in **nbn** satellite areas using alternative technologies, **nbn** submits that any incremental costs faced by **nbn** must also be provided for.

3.4 The cost to serve the "90,000" premises requires additional analysis

In **nbn**'s satellite footprint, the Commission has formed the view that a combination of mobiles and **nbn** satellite services could provide an acceptable baseline service. However, for the reasons articulated in section 2.6 above, and reflecting the Commission's uncertainty about the adequacy of voice services supplied over the **nbn** satellites¹⁵, it is not clear that the Commission (or Government) will ultimately recommend that baseline voice should be supplied over the **nbn** satellite service¹⁶.

Thus, the Commission's focus is on areas within **nbn**'s satellite footprint which do not have mobile coverage, which they estimate to be around 90,000 premises, for which a targeted solution needs to be developed. This number requires further validation, and will be dependent on the views formed by the Commission about what the baseline voice definition is, and the factors outlined in section 1.3 that need to be taken into account in determining the role played by mobile networks.

The Commission appears to consider that restricting the scope of the problem to just the "90,000" voice services in the **nbn** satellite footprint will result in an overall cost reduction compared to the current USO funding arrangements, and hence alternative funding models (i.e. direct government contribution, rather than the industry and government model used today) could be put in place.

This proposition needs to be more fully assessed and validated. As the Commission acknowledges, the current arrangements are not transparently funded, and no one knows which services Telstra considers to be loss-making, so that there is no direct linkage between the actual cost of delivering these services today, and the funding provided to Telstra. As part of the development of a targeted solution for the "90,000" premises, detailed and transparent costings should be developed.

In addition, as noted by **nbn** in its proposed model described in section 1, it is not just the "90,000" premises in **nbn**'s satellite footprint without mobile coverage that should be the Commission's focus, but rather it should be any premises outside **nbn**'s fixed-line footprint without mobile coverage.

¹⁵ "At this stage, the Commission has not made a call about the adequacy of **nbn**'s satellite voice services from an acceptable baseline perspective...", Draft Report, page 179.

¹⁶ On the currently available information, it appears to be unlikely that such a recommendation would be made.

4. Additional responses to the Draft Report

There are a number of other matters raised in the Draft Report which **nbn** wishes to respond to. These are generally to clarify or correct statements made in the Report.

4.1 Matters related to **nbn** service levels

Draft Report statement	nbn response
(page 106) The NBN contains a number of quality performance objectives. According to nbn's latest Service Level Schedule, the network availability objective is 99.9 per cent for its fixed-line and fixed wireless infrastructure, and 99.7 per cent availability for its satellite infrastructure. nbn's network reliability standards are therefore similar to Telstra's own standards for its copper network...	As noted in section 2.6, there are additional factors in relation to satellite availability that need to be considered when attempting to compare with fixed-line networks. The "99.7%" availability target for satellite has a number of important caveats.
(page 119) Telstra offers Priority Assistance as part of its carrier licence conditions	It is important to note that Telstra's Priority Assistance obligations changed in 2015. The key features of these changes were: <ol style="list-style-type: none"> 1) Where Telstra has to rely on infrastructure or services being provided by a third party, Telstra is <u>not</u> obliged to meet the maximum timeframes specified in its licence condition. This means that where Telstra provides a standard telephone service over the nbnTM network, it is required to provide Priority Assistance where requested but is not obliged to meet the maximum timeframes. 2) Similarly, the requirement in Telstra's licence condition that Priority Assistance connection/assurance activities should "attract the highest level of service practicably available at the time" <u>only</u> applies where Telstra controls the local access network. This qualification means that the requirement does <u>not</u> apply where services are provided over the nbnTM network.
(page 160) However, as also noted in chapter 6, there appear to be no penalties to nbn (for example, by way of compensation payments to either retail service providers or end users) in the event that nbn does not meet these timelines. Chapter 9 discusses considerations for the Australian Government in establishing technical standards for both wholesale and retail services, which will be an important element of a reformed universal service regime.	It is incorrect to say that there are no penalties when nbn fails to achieve its performance measures. Under the terms of the current Wholesale Broadband Agreement (WBA), nbn pays: <ul style="list-style-type: none"> • the Connection Rebate, which applies when nbn fails to meet its Performance Objectives for Standard Connections. • the Enhanced Fault Rectification Rebate, which applies when nbn fails to meet its Enhanced Fault Rectification Service Level. • cost reimbursements for Priority Assistance connections, which applies when nbn fails to meet its PA connection service levels at Service Class 3 Premises that have Battery Back-Up installed and its customer provides an interim service to the end user. • cost reimbursements for Priority Assistance fault rectification, which applies when nbn fails to meet its PA fault rectification service levels and its customer provides an interim service to the end user. • CSG Compensation, which is nbn's financial contribution towards the primary damages paid by a customer or downstream service provider to achieve a CSG performance standard. <p>Details of these rebates can be found in the Service Levels Schedule of the WBA.</p>
(page 172, Table 6.2)	nbn notes that the WBA repair timelines for Fixed Wireless have been updated since the Commission produced this table, and are now aligned with FTTN timelines. See table 6.1 in the WBA Service Levels Schedule.

4.2 Policy matters

Draft Report statement	nbn response
<p>(page 220) The Commission considers that nbn should be reviewed regardless of whether or not privatisation is contemplated. The review should include the impact of the regulatory framework to which the nbn is subject on the economic efficiency of the telecommunications sector, including effects on competition in the wholesale broadband market, and wholesale and retail prices.</p> <p>(page 222) The Australian Government should amend the NBN Companies Act to ensure that the planned Productivity Commission review of nbn following the full rollout of NBN infrastructure occurs regardless of whether or not privatisation is being contemplated</p>	<p>nbn does not accept this position. The current legislative arrangements that require nbn to be reviewed prior to any privatisation are appropriate and do not need to be modified at this stage of nbn's deployment. In any case, such a recommendation appears to have no relationship to the provision of universal services, and is out of scope of this Inquiry.</p>

4.3 Miscellaneous items

Draft Report statement	nbn response
<p>(page 166) nbn has recently announced it will also offer wholesale transmission services to remote POIs beginning in mid to late 2017, although further information is yet to be released.</p>	<p>This is incorrect. nbn is continuing to assess whether to develop such a service (and if so, on what basis), but has not made a decision to introduce one at this point in time.</p>
<p>(page 167) "...Telstra and Optus have a presence at each POI, and there are three or more access seekers at 118 POIs (table 6.1)."</p>	<p>In accordance with the latest NBN Wholesale Market Indicators Report published by the ACCC on 2 February 2017¹⁷ there are now 4 or more access seekers at all 121 POIs.</p>
<p>(page 167, footnote 59) Although this appears counter intuitive, it is likely to be because the NBN infrastructure rollout has prioritised non-metropolitan areas. The number of access seekers in metropolitan areas should increase as the rollout continues.</p>	<p>nbn addressed this point in some detail in section 1.4.3 of its July Submission, particularly on page 7.</p>
<p>(page 171) For residential customers, this is \$14.52 per business day for the first five days and \$49.40 per business day thereafter</p>	<p>Minor correction – the correct figure is \$48.40 rather than \$49.40.</p>
<p>(page 275) The provision of voice services over nbn's fixed wireless networks has been rolled out to around 117 500 premises ... and early reports indicate that the technology is providing acceptable voice services, which are comparable to those provided over Telstra's fixed copper networks.</p>	<p>This is incorrect. The Commission appears to be assuming the total number of fixed wireless services deployed is the same thing as the number of voice services being provided. Given that RSPs can use nbn's fixed wireless service to configure retail services in a manner of their choosing, it is not possible to be definitive about the number of voice services being supplied. However, using the most recent NBN Wholesale Market Indicators Report published by the ACCC on 2 February 2017 there were 156k fixed wireless services being provided by nbn, of which around 82k had a TC-1 AVC ordered (52%). It is not necessarily the case that all these TC-1 AVCs are being used to supply voice services. RSPs may simply order these AVCs by default and not actually use them to provide voice services – there is no 1:1 relationship.</p>
<p>(page 286) There are 121 POIs located in Telstra exchanges around Australia (figure B.1), with each connected to premises in the surrounding area.</p>	<p>10 of nbn's 121 POIs are located within nbn-owned facilities rather than in Telstra exchanges.</p>

¹⁷ <https://www.accc.gov.au/regulated-infrastructure/communications/national-broadband-network-nbn/nbn-wholesale-market-indicators-report>

Appendix – Consolidated responses to Draft Report recommendations and findings

Ref	Draft Recommendation/finding	nbn position
DF 2.1 p.72	Technological progress is transforming the way in which people access and use telecommunications services. Individuals, businesses, governments and the community at large are benefiting from these developments. Prices of telecommunications services are falling, while service quality is improving across both fixed and mobile platforms. Moreover, these services are converging, allowing users to readily choose between fixed and mobile access, and generating additional competitive pressure on service providers.	Agree with this finding.
DF 3.1 p.89	There is a dearth of data on the number of premises covered by the telecommunications universal service obligation (TUSO). Telstra (the universal service provider) is not required to, and has advised that it does not collect information on the number of non-commercial telephone services, or on the costs of any telephone service it supplies under the TUSO. As such, the evidence base for assessing whether the TUSO is providing value for money is inadequate. Commission estimates suggest that the TUSO could imply a standard telephone service annual subsidy ranging anywhere between \$250 to \$2800 per 'TUSO' service, and an annual average payphone subsidy of between \$2500 to \$50 000.	Agree with this finding. However, this presents issues for the Commission in determining the merits of alternatives to the current arrangements, as there is uncertainty about the current cost base which should be compared to other approaches.
DF 3.2 p.91	Evidence of the declining relevance of services covered by the telecommunications universal service obligation — the standard telephone service and payphones — is unequivocal. Over the past decade, Telstra's active retail fixed-line services have declined by about one quarter (from over 8 million to just under 6 million services), while the number of Telstra payphones has almost halved (from over 31 000 to around 17 500). One third of Australian adults now rely solely on mobile phones for voice services.	Agree with this finding. However, while the relevance is declining, it has not yet disappeared, and needs to be appropriately dealt with in the transition to new arrangements.
DF 3.3 p.102	In addition to its declining relevance, the telecommunications universal service obligation (TUSO) has a number of deficiencies. It is a blunt instrument with a one-size-fits-all approach to universal service provision. Telstra's contractual obligations under the TUSO lack transparency and accountability. The basis for TUSO funding (a total of around \$3 billion in net present value terms over 20 years to 2032) is unclear and disputed.	Agree with this finding. See comments for DF 3.1 above.
DR 3.1 p.102	The Australian Government should phase out the existing telecommunications universal service obligation as soon as practicable.	Agree with this finding, but some practical issues apply. See comments at section 1.4.
DF 4.1 p.115	A number of consumer safeguards apply to the provision of the standard telephone service. These safeguards do not apply consistently across all providers and all telecommunications services. The declining reliance on the standard telephone service and the increasing proportion of consumers agreeing to waive these safeguards (in particular, the Customer Service Guarantee) make the relevance of these safeguards questionable.	Agree with this finding.
DF 4.2 p.132	In addition to the telecommunications universal service obligation, there is a plethora of policies and programs that subsidise the provision and use of telecommunications services across Australia and across different cohorts of users. Conservatively (and excluding the NBN), at least \$1 billion per year is allocated to telecommunications programs broadly associated with supporting universal service objectives. There would be benefits from removing duplication and moving towards a more integrated approach to meeting universal service objectives.	Agree with this finding.

Ref	Draft Recommendation/finding	nbn position
DR 4.1 p.133	The Australian Government, in consultation with state and territory governments, should conduct a stocktake (by the end of 2017) of all telecommunications programs that share universal service objectives to rationalise and improve their efficacy and cost-effectiveness. The Australian Government should also provide a forum for agencies and jurisdictions to promote program evaluation and share best practice.	Agree with this recommendation.
DF 5.1 p.151	<p>There are several possible rationales for the provision of universal telecommunications services. These revolve around: enabling markets to function well; providing access to emergency services; facilitating greater social inclusion; and enabling access to online government services.</p> <p>Some of these benefits involve a public good and are likely to be underprovided by the market. Further, Australia's extended areas of low population density mean that a market presence may not exist because of high costs of service provision and limited revenue opportunities.</p>	Agree with this finding.
DR 5.1 p.162	The Australian Government should reframe the objective for universal telecommunications services to provide a baseline broadband (including voice) service to all premises in Australia, having regard to its accessibility and affordability, once NBN infrastructure is fully rolled out.	As noted in section 2, nbn considers that baseline broadband services will be delivered by nbn as a result of current policy settings.
DF 6.1 p.169	After the full rollout of NBN infrastructure and in the absence of the telecommunications universal service obligation, retail broadband (including voice) services are likely to be available to all premises across Australia.	nbn does not agree with this finding. This is not what nbn has been established to deliver. This finding does not take into account the cost and resource implications for nbn . See discussion in section 2 of this submission.
DF 6.2 p.180	<p>The quality of the broadband service supplied by NBN infrastructure will be superior to the quality of service previously available across all Australian premises.</p> <p>However, as is the case under the existing telecommunications universal obligation (TUSO), the quality of voice services will vary across technologies.</p> <ul style="list-style-type: none"> • Voice services offered to premises in the NBN fixed-line and fixed wireless footprints will be of a high quality and equivalent to the standard offered under the TUSO. • Voice services offered to premises in the NBN satellite footprint will be of an adequate quality for most purposes, but will fall short of the quality of those offered under the current TUSO in terms of latency and service repair timeframes. Up to 90 000 premises may be solely dependent on nbn's Sky Muster satellites for voice calls. • Whether further government support for some alternative voice service for these premises is warranted is contingent on whether the quality of nbn's services is below the baseline that the broader community would regard as acceptable for a universal service. 	As discussed in section 1.2, further consultation is required to ensure an appropriate and clear definition of the baseline voice service is identified. This underpins many of the subsequent decisions that need to be taken to develop a new approach to the provision of universal services.

Ref	Draft Recommendation/finding	nbn position
DF 6.3 p.198	<p>In terms of the availability and accessibility of telecommunications services, certain groups of people with particular needs may experience difficulties following the full rollout of NBN infrastructure and in the absence of the telecommunications universal service obligation.</p> <p>The costs of providing specialised services to these groups are likely to result in providers not offering the services, or providing them at a high price. Notwithstanding that technological advances could reduce these costs, the particular needs of some people in these groups warrant targeted government intervention.</p> <p>The groups most likely to experience difficulties include: people with disability and life threatening conditions; Indigenous people living in remote settlements; some older people; people with no fixed address; and a small number of users of emergency services within the NBN satellite footprint.</p>	Agree with this finding.
DF 6.4 p.203	Telecommunications services are likely to continue to be affordable for most people. However, government subsidies may be required for a small number of low-income users.	Agree with this finding.
DF 6.5 p.203	In the absence of a telecommunications universal service obligation, and given current policy settings and the full rollout of NBN infrastructure, the extent of market gaps and particular user needs in telecommunications are likely to be small and differ across groups. This gives weight to a targeted approach to government intervention.	Agree with this finding.
DR 7.1 p.217	The Australian Government should introduce legislation as soon as possible to make explicit the role of nbn as a universal service provider of wholesale broadband services. The legislation should be in place before any decision by the Australian Government to privatise nbn.	nbn assumes that this will happen as part of the current legislative processes (although it is unclear why this recommendation is necessary in this context).
DR 7.2 p.218	The Australian Government should ensure that any further intervention with respect to guaranteeing retail service provision over NBN infrastructure is minimal. This should involve monitoring by the Australian Government of retail presence on NBN infrastructure and, if necessary, contracting one or more retail service providers to service geographic areas lacking retail presence.	Agree with this recommendation.
DR 7.3 P.222	The Australian Government should amend the National Broadband Network Companies Act 2011 (Cth) (the Act) to ensure that the planned Productivity Commission review of nbn following the full rollout of NBN infrastructure occurs regardless of whether or not privatisation is being contemplated. The review should cover the impacts of nbn on the economic efficiency of the telecommunications sector as well as all the matters already specified in section 49 of the Act.	nbn does not accept this recommendation. See response at section 4.2.
DR 7.4 p.227	Before proceeding to the next round of funding under the Mobile Black Spot Programme, the Australian Government should implement the Australian National Audit Office's recommendations relating to that program. It should also: target the program only to areas where funding is highly likely to yield significant additional coverage; revise its infrastructure-sharing requirements to be consistent with the Australian Competition and Consumer Commission's findings in the ongoing Domestic Mobile Roaming Declaration Inquiry; and prioritise areas for funding based on community input — rather than nominations from Members of Parliament.	Agree with this recommendation.
DR 7.5 p.230	The Australian Government should establish a funding program for a form of community telecommunications service (such as payphones) that targets locations where premises do not currently have a satisfactory alternative voice service, such as a mobile service. This program should target particular needs and be flexible for delivery to such communities. This program should involve a competitive tendering process to allocate funding.	Agree with this recommendation.

Ref	Draft Recommendation/finding	nbn position
DF 8.1 p.239	The amount of funding required for universal service programs following the full rollout of NBN infrastructure is likely to be smaller than the current funding amount for the telecommunications universal service obligation.	This proposition requires further evidence to support it. See discussion in section 3.4.
DR 8.1 p.243	The Australian Government should use competitive tendering wherever feasible to deliver telecommunications universal service programs. As a first step, the Government should test the depth of relevant market segments. Where there is no market depth and a competitive tendering process is not feasible, the Government should, at a minimum, subject all proposed program costings to an independent and transparent validation process. Where relevant performance comparators are available across programs, these should be used as a basis for benchmarking.	Agree with this recommendation.
DF 8.2 p.249	Whether funded from general government revenue, an industry levy or a combination of both, all funding models can distort investment and consumption decisions and involve administrative costs. An 'optimal' funding model should seek to minimise these costs, which will vary with the nature and size of the program to be funded, as well as broader market dynamics.	Agree with this finding.
DR 8.2 p.258	The Australian Government should fund targeted measures to meet telecommunications universal service objectives principally through general government revenue rather than an industry levy. The Australian Government should seek to minimise the risks of cost-padding and gold-plating through contestable and transparent processes.	Agree with this recommendation.
DF 8.3 p.258	Small programs do not justify the design and administrative costs associated with a broad-based industry levy. Funding these through general government revenue is likely to be simpler and less costly to administer. This would imply the ultimate removal of the Telecommunications Industry Levy.	Agree with this finding.
DF 9.1 p.264	The Commission's proposed changes to universal service arrangements are incompatible with the current Telstra USO Performance Agreement. The contract's review and payment mechanisms offer limited capacity for the parties to amend the contract in a way that aligns with an improved policy approach. A significant renegotiation of the terms of the Agreement is likely to provide the most effective transition path to a fully overhauled universal service regime.	Agree with this finding.
DR 9.1 p.265	The Australian Government should immediately commence negotiations with Telstra to amend, and ultimately abolish, module B (Standard Telephone Service USO) and module C (Payphones USO) of the Telstra USO Performance Agreement (in line with draft recommendation 3.1).	Agree with this recommendation. See further comments at section 1.4.
DR 9.2 p.267	In negotiating changes to the Telstra USO Performance Agreement (draft recommendation 9.1), the Australian Government should seek an early termination of module C (Payphones USO) of the Agreement. These negotiations should be complemented by the required legislative amendments to also remove Telstra's statutory requirements in relation to the payphones universal service obligation.	Agree with this recommendation.
DF 9.2 p.278	A transition path away from the current telecommunications universal service obligation will need to be supported by necessary adjustments to the surrounding regulatory framework. Such adjustments include changes to consumer safeguards, Telstra's carrier licence conditions, and other existing policy measures. This will ensure that consumer rights are adequately considered, while removing inefficiencies and outdated mechanisms.	Agree with this finding.

Ref	Draft Recommendation/finding	nbn position
DR 9.3 p.278	<p>The Australian Government should proceed with its intended review of the telecommunications consumer safeguards framework as a matter of priority. The review should include an assessment of:</p> <ul style="list-style-type: none"> • what, if any, future safeguards are necessary • what changes should be made to Telstra's carrier licence conditions • the future role of accessibility and affordability measures, including the Telephone Allowance, the National Relay Service and relevant elements of the National Disability Insurance Scheme • the consumer protection roles of various bodies including: the Australian Competition and Consumer Commission; the Australian Communications and Media Authority; and the Telecommunications Industry Ombudsman • the delineation of responsibilities for service quality (including fault repair) on the NBN. 	<p>Agree with this recommendation.</p> <p>However, as discussed in section1.2, it may not be appropriate for this process to determine the specification for the baseline voice service, as this should be resolved as soon as possible to feed into other aspects of USO reform.</p>