Australian Government

Telecommunications infrastructure in new developments:

Policy update for comment

December 2014

This document sets out the Government's proposed approach to the provision of telecommunications infrastructure in new developments. The Government invites comments on the approach by 15 January 2015. Information on how comments can be provided can be found on the Department of Communications' website at www.communications.gov.au.

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1. OVERVIEW

This policy update sets out the Government's proposed approach to the provision of telecommunications infrastructure in new residential developments. Subject to feedback, it is intended that the approach outlined in this policy update will replace the Fibre in New Developments: policy update of 22 June 2011. A glossary of terms used in this document is provided on page 27.

The key elements of this policy are:

1. Developers can choose among competing infrastructure providers.
2. To ensure infrastructure in new developments meets consumer expectations, the Government will put in place carrier licence conditions specifying minimum standards.
3. NBN Co remains the infrastructure provider of last resort (IPOLR) in developments with 100 lots or more within its fixed line footprint. Telstra remains the IPOLR in developments with fewer than 100 lots, and in developments outside the NBN fixed line footprint.
4. Telstra will continue to provide USO voice services with flexibility in the method of delivery.
5. Developers will meet the cost of pit and pipe infrastructure. Network providers (including NBN Co) may offer pit and pipe infrastructure as part of a turnkey solution.
6. NBN Co will levy a one-time connection charge of $300, which it is anticipated retail service providers (RSPs) will pass through to end-users.
7. NBN Co will levy a deployment charge on developers for infrastructure. The charge is $600 for single-dwelling units (SDU) and $400 for multi-dwelling units (MDU).
8. Where it doesn't have backhaul available to connect a new development, NBN Co may charge developers a co-contribution of up to 50 per cent of the first $1000 per lot of capital costs it incurs. Developers will be liable for 100 per cent of backhaul costs in excess of $1000 per lot.
9. Where NBN Co has backhaul to its nearest point of interconnect available, it will supply it on commercial terms to non-NBN networks in new developments where requested.
10. NBN Co will consider simplifying its pit and pipe specification with a view to it being promulgated as the default industry standard which non-carriers would need to follow. Licensed carriers would be able to diverge from these specifications where they have their own established alternatives and they comply with the industry guideline.
11. Industry (through the Communications Alliance) will be asked to establish an adjudicator to resolve disputes over IPOLR responsibilities. Alternatively, the Government will establish an adjudicator at industry's expense.
12. NBN Co will trial arrangements for purchasing networks built to its specifications at pre-agreed prices from infrastructure providers, contractors or developers.
13. Industry should seek to minimise the number of business-to-business interfaces. The best model to do this will be left to industry. If industry advises that an NBN Co based interface is the preferred solution, the Government will support and facilitate this outcome on fair commercial terms.
14. The Federal Government will work with state and territory governments to ensure planning laws support quality telecommunications infrastructure and protect consumers.

2. CONTEXT AND OBJECTIVES

This policy update reflects the Government's view that changes introduced in 2011 to the provision of telecommunications in new developments unduly tilted the playing field against private infrastructure providers. While the Government supports NBN Co's participation in the new developments market, this should not be at the expense of competition.

2.1. Competition, choice and the NBN

Since 1997 Australia has had an open market in telecommunications. The Government is committed to the rollout of the National Broadband Network (NBN), which is likely to become the dominant fixed line platform where it replaces the Telstra network. But a different dynamic applies in new developments, where there is no existing infrastructure and greater scope for competition (as long as competition delivers levels of service comparable to those provided by the NBN elsewhere).

Three factors are particularly important for the future servicing of new developments.

- Australia has decided to separate wholesale provision of infrastructure from supply of retail services to residential and small business users. NBN Co operates on a wholesale-only basis and similar rules apply to other new superfast broadband access networks. Since most areas will be served by a single fixed line network, open access and the ability to attract RSPs are required to maximise consumer choice.
- NBN Co will provide fixed line broadband to about 93 per cent of premises, and serve the remaining premises in regional and remote areas with wireless and satellite. As the fixed line NBN rolls out, NBN Co replaces Telstra as the infrastructure provider of last resort (IPOLR) in new developments. Telstra will retain this role (and continue to provide voice service) in wireless and satellite areas.
- The gradual structural separation of Telstra as the NBN rolls out means that Telstra can no longer provide fixed line infrastructure in areas where the fixed line NBN is active.

In a competitive market, developers and state and territory governments need to play a more active role to ensure telecommunications services are available in new estates. Developers must choose between competing providers, with Telstra and NBN Co serving as providers of last resort.

In practice this means developers can no longer assume a default telecommunications carrier such as Telstra or NBN Co will identify a development is planned or underway and come along to service it. Developers need to actively manage the provision of telecommunications – just as they manage other utilities such as roads, drainage, water, sewerage and power – and choose a provider (which may be the 'provider of last resort'). They will also need to contribute to the cost of provision.

Planning departments in the states and territories should consider measures to ensure developers give appropriate consideration to telecommunications, given its importance in daily life and the penalty imposed on consumers if developers deliberately or accidentally overlook its provision.

New developments vary greatly in their size, stage of occupancy and location. They may be greenfield or brownfield (infill); broadacre or high-density; inside or outside the existing NBN fixed line network; and adjacent to other developments or in an entirely new location.

This policy update aims to be flexible enough to accommodate these differences and variations in the way telecommunications services can be provided.

2.2. Balancing competing needs

This policy strives to balance a range of objectives and interests.

- The most important objective is to ensure occupants of new developments receive timely access to high quality telecommunications services. Since most developments will be served by a single provider, this necessitates setting basic service standards. To the extent that there are localities which are unattractive to service, there must also be an IPOLR.
- Another objective is supporting choice. Buyers – in this case, developers – should be free to choose a preferred infrastructure provider, while infrastructure suppliers should be free to bid for developments they wish to address.
- Similarly, consumers must be free to choose among competing retail service providers. Given the first network built in an area will often secure an effective monopoly, it is crucial that open access and competitive provision of retail services are supported.
- Fair competition and competitive neutrality are related objectives. The Government supports NBN Co's right to service new developments, but it must compete fairly with other providers. In 2011, the conduct of NBN Co in this market was the subject of a complaint to the Australian Government Competitive Neutrality Complaints Office (AGCNCO)[1]. While the AGCNCO found NBN Co had not breached competitive neutrality guidelines at that time, the Government considers NBN Co should be (and be seen to be) a competitor not unfairly or unduly reliant on its Government ownership and funding.
- The Government (like most of its predecessors since the early 1980s) believes users should, to the extent possible, pay for infrastructure. This enduring principle has been reiterated in the past year by the Productivity Commission and the Vertigan Cost-Benefit Analysis and Review of Regulation[2]. However, telecommunications networks involve high initial capital costs and as long-lived network assets, benefit multiple parties, not just the initial party connected. Therefore it may not be optimal to recover all costs upfront. Where costs are subsidised, this must be consistent with competitive neutrality.
- NBN Co has been directed to operate commercially, and should not be expected to leave new developments to private providers except in cases where the latter do not want to service them. A competitive market means NBN Co participates and competes.
- Since the NBN includes loss-making networks in urban fringe, regional, rural and remote areas, and the NBN entails funding these through cross-subsidies, it follows that profitable networks in new developments which are not part of the NBN, need to contribute to this cross-subsidy.

As well as competing objectives, there are multiple parties with an interest in infrastructure in new developments – developers, consumers, NBN Co, private infrastructure providers, contractors and all levels of government. This policy seeks to balance these varied interests while achieving the objectives set out above.

[1] Australian Government Competitive Neutrality Complaints Office, *NBN Co*, Investigation No. 14, 2011.

[2] Productivity Commission, *Public Infrastructure*, Inquiry Report No. 71, 2014, p.142. Vertigan Cost-Benefit Analysis & Review of Regulation, *National Broadband Network: Market and Regulatory Report*, 2014, p.163. Also see Productivity Commission, *First Home Ownership*, Inquiry Report No. 28, 2004, p.156 & 169.

3. KEY ELEMENTS OF THE NEW DEVELOPMENTS POLICY

The key feature of the Government's arrangements is fair competition. Any provider capable of competently supplying infrastructure in new developments should have an opportunity to do so. To ensure satisfactory outcomes for consumers, some rules are proposed about the solutions provided. As long as these are followed, the goal is to allow fair and effective competition.

Developers are responsible for ensuring the provision of infrastructure in their developments. To support competition, developers will need to make a greater financial contribution to the cost of providing telecommunications infrastructure in their developments than in the past.

3.1. A level playing field

The 2011 policy update permitted private providers to supply telecommunications in new estates, but scope for non-NBN providers to effectively compete was lessened by a decision that NBN Co would not levy upfront charges. As a result, private providers only secured contracts where the NBN rollout was delayed or non-NBN providers offered value-added services (such as reticulation of television signals over the fixed line network) which NBN Co did not.

NBN Co has been able to provide 'free' infrastructure in part because it recovers these costs later from access charges, but also because it is supported by taxpayers. While NBN Co's size and reach will always be advantages, the measures in this policy update will significantly level the playing field. Developers and end-users will both need to make larger upfront contributions. NBN Co will continue to absorb much of the cost of in-estate infrastructure and backhaul connections to its core network.

At the end of the day, it will be up to providers to compete on their merits. To ensure all new developments obtain access to modern services, the Government will ensure there are default providers of last resort for infrastructure and services. But this safety net will also operate in a way that preserves competition – upfront charges will likewise apply to IPOLR networks.

3.2. Summary of charges

The table summarises the charges NBN Co will levy, and the party responsible for paying them. These charges are explained in more detail later in this document. Some practical examples of how the charges work are set out in the box on the next page.

NBN Co Charge Per Premises/Lot		**Party Responsible**
Connection charge	**$300**	RSP (passed to owner)
Deployment charge (SDU)	**$600**	Developer
Deployment charge (MDU)	**$400**	Developer
NBN backhaul already available	**No charge**	N/A
Backhaul costs of up to $1000	**Up to 50% of costs**	Developer
Backhaul costs of more than $1000	**Up to 100% of costs over $1000**	Developer
Wireless/satellite co-contribution (SDU)	**$1300**	Developer/owner
Wireless/satellite co-contribution (MDU)	**$1100**	Developer/owner

Note that in addition to these charges developers are required to meet the cost of pit and pipe, which is estimated to range between $400 and $800 per lot in typical developments.

SOME EXAMPLES OF NBN CO CHARGES INCLUDING BACKHAUL

An estate of 200 freestanding houses *is already passed by NBN Co's transit network. Each home owner will pay a connection charge of $300 to NBN Co through their RSP when they request an active service. The developer pays NBN Co deployment charges of 200 x $600 = $120,000.* ***Total developer contribution: $120,000****.*

An estate of 1000 lots zoned for freestanding houses *is not currently passed by NBN Co's transit network. NBN Co's capital costs to provide backhaul are $400,000 (or $400/lot). Each home owner will pay a connection charge of $300 to NBN Co through their RSP when they request an active service. The developer pays NBN Co deployment charges of 1000 x $600 = $600,000. NBN Co also charges the developer a network connection charge of $400,000 x 50% = $200,000.* ***Total developer contribution: $800,000****.*

An urban infill development of 400 townhouses *is not currently passed by NBN Co's transit network. NBN Co's capital costs to provide backhaul are $100,000 (or $250/lot). Each home owner will pay a connection charge of $300 to NBN Co through their RSP when they request an active service. The developer pays NBN Co deployment charges of 400 x $400 = $160,000. NBN Co could also charge the developer a network connection charge of $100,000 x 50% = $50,000, but because it expects to use this backhaul for additional premises later, the charge is reduced by NBN Co to $25,000 or $62.50/lot.* ***Total developer contribution: $185,000****.*

A new development of 200 land-and-house project homes 6km outside a regional centre *is not currently passed by NBN Co's transit network. NBN Co's capital costs to provide backhaul are $300,000 (or $1500/lot). Each home owner will pay a connection charge of $300 to NBN Co through their RSP when they request an active service. The developer pays NBN Co deployment charges of 200 x $600 = $120,000. NBN Co also charges the developer a network connection charge of $1000 x 50% + $500 x 100% = $1000/lot. Therefore, for 200 lots, the total network connection charge is $200,000.* ***Total developer contribution: $320,000****.*

An eco-friendly retirement development of 100 townhouses and 100 freestanding residences is situated in a 'tree-change' area 10km from the nearest large town*. The area is served by the fixed wireless NBN, the developer chooses NBN Co to serve the development even though Telstra is the fixed line IPOLR. (Voice services would be provided over the wireless connection.) NBN Co determines fixed wireless is optimal and charges the developer the co-contribution: $1100 x 100 MDUs + $1300 x 100 SDUs = $240,000. The developer decides to pass through $300/premise of this to owners. Each home owner therefore pays a co-contribution of $300 for fixed wireless infrastructure (or a total of 200 x $300 = $60,000) and will also pay a connection charge of $300 when they request an active service. The developer pays the remaining co-contribution.* ***Total owners' co-contributions: $60,000. Total developer co-contribution: $180,000****.*

The charges in this document may need to be varied over time given the limited NBN rollout in new developments to date and the dynamic nature of the telecommunications industry. Should such adjustments become necessary at some point in the future, the Government will consult widely with stakeholders prior to any decision.

3.3. Consumer outcomes

The Government's fundamental objective is to ensure occupants of new developments have timely access to high quality and fairly priced telecommunications services.

3.3.1. Availability

It could be argued telecommunications services are so essential they could be safely left to the market to deliver. The Government broadly considers this to be the case, but recognises there is a risk that some developments may not be serviced at all and sub-optimal solutions may be provided at others, particularly if developments are less commercially attractive.

3.3.2. Minimum service standards

Infrastructure in new developments must support high-speed broadband and voice services[3]. It will also need to be upgradeable and affordable if it is to remain competitive. For reasons of efficiency, there may be some variability in approach and outcomes in infill developments in brownfield areas on a transitional basis while the NBN rolls out. Voice services that meet general community expectations, consistent with Communications Alliance guidance in this area, will be required. This may be via Voice over Internet Protocol or VOIP.

Broadband service requirements will be set to be consistent with guidance to NBN Co regarding its level of service in fixed line areas – as a starting point, download data rates of 50 Megabits per second, with upload capability being proportional. Infrastructure in new developments should be upgradeable to support communications needs for the foreseeable future and remain competitive.

3.3.3. Access technology

Consistent with a multi-technology mix model, the Government considers that network operators and developers should be free to determine which access technology is most cost effective and deploy it, subject to general performance requirements.

In most circumstances fibre-to-the-premises (FTTP) will be the preferred technology in new developments. The incremental cost of fibre over other options in a new estate, particularly if it includes a large number of premises, is marginal – in contrast to brownfield areas where leveraging existing copper and hybrid fibre-coaxial cable (HFC) infrastructure provides high-speed broadband sooner and at far less cost.

As demand for higher download and upload data rates increases, FTTP readily provides the capacity required[4]. It is also often argued FTTP is a selling point for home buyers.

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[3] Under the 'Adequately Served' Policy that has been previously applied in new developments, networks needed to be fibre-to-the premises, able to support voice, comply with Parts 7 and 8 of the *Telecommunications Act 1997* (open non-discriminatory wholesale-only supply, including of a Layer 2 bitstream service), be upgradeable over time, and operated on a provider of last resort basis. See: www.communications.gov.au/broadband/national_broadband_network/adequately_served.

[4] While work undertaken by Robert Kenny as part of the Vertigan Cost-Benefit Analysis identified download capability of 15 Mbps would be sufficient for the median user in 2023, the same work projects that further increases in capacity will be required at later dates. Given the marginal cost of providing fibre in new developments, and its expandable capacity, it may be more cost-effective to install this infrastructure in greenfield areas (in contrast to brownfield areas where different cost considerations apply).

While FTTP will often be the cost effective option in new developments, this will not always be the case – e.g. in new developments with small numbers of premises in brownfield areas with ready access to HFC or fibre-to-the-node (FTTN).

Carrier licence conditions will be amended to ensure that in servicing new developments network operators provide solutions broadly consistent with those to be delivered under the NBN. But it will be important that these requirements do not inhibit innovation. Compliance with any such rules could in time be integrated into state and territory planning processes.

3.3.4. Retail service competition

One of the strengths of the NBN is the range of RSPs it offers to consumers. For alternative networks to be attractive to RSPs, the number of business-to-business interfaces RSPs need to integrate with for ordering and managing services should be kept to a minimum – or a standard interface should be available for use by all network operators. There are a range of models that could be used to facilitate this, ranging from a new third party industry interface through to the use of NBN Co's existing interface. Given the technical and operational considerations, the decision on the best model should be left to industry. If industry advises that an NBN Co interface is the preferred solution, the Government will support and facilitate this outcome on fair commercial terms.

It is also open to NBN Co to obtain access to infrastructure owned by alternative network operators and resupply – potentially expanding its reach, earning a margin, and fostering retail competition.

3.4. Developer responsibilities

Developers have a choice of network provider in all cases and can purchase network components (including the network itself and the pit-and-pipe infrastructure through which it typically runs) as they wish, noting that under the arrangements a non-NBN provider would be obliged to provide solutions that at least match NBN consistent outcomes.

If the developer seeks to contract network construction to a construction contractor, it should be mindful that a carrier is still needed to operate the network subject to the requirements of the carrier licence condition. Clearly construction firms will need to have regard to the obligations on carriers and build them accordingly.

3.4.1. Planning

Because of the complexity, costs and logistics of providing telecommunications infrastructure in new developments, developers must consider telecommunications provision in the earliest stages of their planning and costing processes. They should engage with prospective suppliers and decide upon their provider as early as possible.

State and territory governments may in due course be able to play an important role in this regard by incorporating supply of telecommunications into their development application processes.

3.4.2. Choice of provider

To choose a network provider, a developer should ask appropriately qualified network operators (including NBN Co) or infrastructure builders for quotes, and proceed with the one they consider best meets their needs. Apart from cost and meeting minimum service requirements, other important considerations will be the provider's track record, sustainability into the future, and ability to meet the developer's timeframes.

Developers would be expected to meet the costs included in the successful contractor's tender. These charges would fundamentally be a matter for the carrier, but charges are likely to be to at least to some extent influenced by what IPOLRs charge, which will be described below.

3.4.3. Should there be a clearing house?

An option raised with the Government is the establishment of an online clearing house to present new development opportunities to network providers or contractors. The clearing house could also help network providers co-ordinate provision of infrastructure and allow consumers to identify the party responsible for their premises in the event of supply problems.

While the Government understands the case for the clearing house, it considers this is a matter best left to the market – recognising that developers may prefer to negotiate directly with a particular infrastructure provider and not put their business out to tender. This is essentially each developer's choice. There are also many developments where there may be an optimal solution (for example very small brownfield infill developments in areas where the NBN has not been deployed may best be addressed by integrating them into Telstra's network short term, and the NBN brownfields rollout longer term). Mandating a clearing house could create additional regulatory burden for little gain.

3.4.4. Pit and pipe infrastructure

Developers will remain responsible for the cost and delivery of appropriate pit and pipe infrastructure unless otherwise arranged with the network provider.

In light of concerns expressed by some parties about variations in costs, the Government is considering options for certification of pit and pipe.

It is the responsibility of the network provider contracted in each new estate to determine whether they require ownership of the pit and pipe to be transferred to them as a condition of servicing the estate, and what design characteristics they require. From the Government's perspective, there is merit in carriers taking ownership of pit and pipe for ongoing operation and maintenance. Carriers are also subject to obligations to provide access to pit and pipe infrastructure.

The Government proposes to amend Schedule 3 of the *Telecommunications Act 1997* to make it clear carrier powers and immunities (e.g. in relation to installation and maintenance) apply to pit and pipe infrastructure transferred to carriers just as they apply to similar infrastructure built by carriers themselves. Where pit and pipe is not transferred to the network operator, the Government will consider amending Part 20A of the *Telecommunications Act 1997* to require owners other than carriers to maintain it.

If a developer does not choose a network provider, but defaults to the IPOLR, the developer remains subject to the obligations (including charges) applying to such provision. These are described elsewhere in this document.

3.4.5. Notice periods

In addition to any obligations to transfer ownership of pit and pipe and charges, IPOLRs can insist on developers providing them with a specified notice period before they are obliged to provide infrastructure. Unless an IPOLR agrees otherwise in writing, the maximum notice period is six months (180 calendar days) prior to the development's estimated first occupancy date, on the assumption that the networks need to be ready for service and to activate customers at this date.

IPOLRs can also specify a minimum period for which pit and pipe should be available prior to the date when infrastructure needs to be ready for service. A minimum of four months between the provision of pit and pipe and the ready for service date has been proposed by NBN Co.

The notice period simply means this is the amount of time an IPOLR has to provide the infrastructure required – it cannot decide to not service a development because the developer has not provided sufficient notice. In other words, if the developer does not provide sufficient notice, it can be told it will have to wait until after some premises are ready for occupancy, but cannot be told the IPOLR is not obliged to service the estate.

3.5. Property owner responsibilities

Unless it has already been arranged by their developer, property owners are generally responsible for organising the individual connection of telecommunications to their premises.

As has been the case for many years, end-users remain responsible for paying for any on-property trenching, conduit and installation costs. It may be that this is organised by their developer or builder as part of their house and land package. Property buyers should check these matters.

New occupants also need to contact the service provider of their choice to choose their retail plan and activate their service.

Under the IPOLR arrangements set out below, NBN Co will charge end-users a network connection charge. The connection charge is $300 per premise. It will be collected by the RSP on behalf of NBN Co.

This in line with charges currently levied by other providers in new developments (e.g. Telstra currently charges $299 for a copper network connection). It is also consistent with the experience of occupants of premises in brownfield areas, who have connections that were previously paid for.

3.6. Network operator and infrastructure contractor responsibilities

Network providers (or infrastructure contractors) servicing new developments will need to meet all infrastructure and service requirements set out in relevant industry legislation, regulatory instruments and other binding standards or documents. Network providers (or infrastructure contractors) are also expected to meet their contractual obligations.

The precise expectations and requirements on network providers (or infrastructure contractors) are set out elsewhere in this document. More specific responsibilities of NBN Co and Telstra as IPOLRs are also discussed elsewhere.

Network providers including NBN Co can provide turnkey packages, including offering pit and pipe infrastructure, if they wish. However, developers can also seek to source individual network elements as they wish, for example, sourcing pit and pipe from one supplier and cabling from another.

As indicated in the Government's December 2014 position paper on telecommunications regulatory reform, the Government intends to introduce an industry-based scheme to fund the provision of broadband infrastructure in loss-making areas. Infrastructure providers in new developments would be expected to contribute to this scheme on an equitable basis.

3.6.1. Overbuilding by NBN Co

Both private providers and NBN Co need clarity on if and when NBN Co is expected to overbuild existing infrastructure that provides NBN comparable outcomes. If NBN Co is to compete in the marketplace, it needs to have the right to overbuild, but in many instances, it is likely it will be competing for the market, but not necessarily in the market.

The Government will no longer apply a formal 'Adequately Served' Policy. But the arrangements are 'self-correcting' and provide a high level of certainty for industry participants.

Where a network operator provides NBN-comparable services – including wholesale-only operation, open access, and fulfilment of the IPOLR role – there is little commercial incentive for NBN Co to overbuild. This describes networks such as those operated by Opticomm or Pivit that currently have 'adequately served' status, and will remain the case provided they continue to meet the conditions under which that status was granted.

NBN Co will be directed to advise Shareholder Ministers where it considers there is a commercial case to overbuild a network providing NBN-comparable outcomes. Shareholder Ministers will closely scrutinise any proposal for NBN Co to engage in capital expenditure in areas that already have high levels of broadband availability.

If networks in new developments do not provide NBN-consistent outcomes, NBN Co may choose to overbuild them. This provides alternative network operators with an incentive to deliver solutions that match or exceed those available on the NBN. This includes future upgrades. For example, if a future review of broadband standards decides NBN Co and other networks should offer a higher level of minimum performance, the Government expects alternative networks would be upgraded as necessary so they continue to meet community expectations. If not, NBN Co would need to consider whether to overbuild.

These overbuild arrangements will be reviewed by the Productivity Commission as part of its pre-privatisation review of NBN Co after the NBN is completed.

3.6.2. Infrastructure provider of last resort

A non-NBN or non-Telstra network operator servicing a development will take on the role of primary IPOLR and be responsible for all premises within the footprint it has been contracted by the developer to service. It would also have a presumptive obligation to service any contiguous, comparable new development within one kilometre of its existing network footprint. However, this depends on its willingness and capability, and on the developer's willingness to contract the work to it (the developer may prefer another provider). If the developer does not want to contract another provider and the presumptive IPOLR does not want to service the area, the obligation would default to NBN Co or Telstra in accordance with their underlying IPOLR obligations (see below).

3.6.3. Geo-spatial information

Carriers would be required in the carrier licence condition to lodge appropriate geo-spatial information on what estates they are servicing on a website hosted by the Department of Communications. This information could include the name and the boundaries of the estates. This will help all carriers co-ordinate the provision of infrastructure, help developers locate nearby carriers, enable consumers to check who is servicing their estate and enable governments to monitor the provision of infrastructure.

3.6.4. Step-in arrangements

In the event that a non-NBN provider is at risk of failing, in a competitive market place other providers, including NBN Co, are able to acquire the business on a commercial basis, subject to compliance with relevant rules (e.g. wholesale-only). This ensures continuity of service. Providers can also enter into commercial arrangements in advance to deal with such eventualities.

4. INFRASTRUCTURE PROVIDERS OF LAST RESORT

When people move into new premises, they expect telecommunications services to be available. In circumstances where a developer is not otherwise able to find a network provider to service an estate at an affordable price, NBN Co and Telstra will continue to have obligations as the IPOLR.

4.1. IPOLR Responsibility

NBN Co will be the IPOLR for fixed infrastructure supporting voice and broadband in:

- New developments in its fixed line footprint where the NBN has established its network (that is, those areas that have been declared 'ready for service') or adjacent to those developments[5].
- New developments in its fixed line footprint where NBN Co has publicly identified the area as a rollout region. Rollout regions are announced 12 months prior to the ready for service date.
- New developments of 100 or more lots/premises in those parts of the fixed line footprint where the NBN has not yet been rolled out.
- New developments of fewer than 100 lots/premises in fixed line areas where the NBN has not yet rolled out, but where NBN Co has a permanent active transit network and can cost-effectively provide backhaul to the nearest point of interconnection (PoI).

NBN Co can also service any other development it wishes to service, subject to its adherence to this policy and its other obligations.

Telstra will be the IPOLR supporting voice services in:

- New developments of fewer than 100 lots/premises in the NBN Co fixed line footprint where NBN Co has not established its network (i.e. declared its network ready for service).
- New developments in fixed wireless and satellite areas.

Telstra's responsibilities reflect its ability to service small new developments in established areas where copper infrastructure is readily available and copper is likely to be the most cost-effective option in the short term, pending roll out of the NBN or other next generation broadband platforms.

Telstra will fulfil its IPOLR role consistent with the Universal Service Obligation (USO).

NBN Co will notify Telstra where a decision has been made to service a new development with fixed wireless or satellite technology.

4.2. IPOLR cost recovery by NBN Co

In its role as IPOLR, NBN Co will levy the charges set out in the table on page 4 when it services new developments. These charges are not binding on any other provider.

NBN Co's charges reflect the significant costs it incurs to serve new developments. It should be noted the charges proposed are contributions to those costs, not necessarily NBN Co's full costs.

[5] 'Adjacent' in this context means that the closest boundaries of properties in the respective footprints are within 1000 metres of each other. In this instance it is assumed NBN Co has appropriate infrastructure in proximity of the new development and that the size of the development is not relevant. Conversely, if the development involves fewer than 100 lots/premises and is more than 1,000 metres away and/or NBN Co does not have infrastructure in proximity, the development would be Telstra's responsibility.

Differing deployment charges of $600 for SDUs and $400 for MDUs are proposed because costs to connect them vary (MDUs are typically less expensive due to their higher density).

4.3. The role of NBN Co

As noted, NBN Co may service sub-100 lot developments if it wishes. This includes using alternative network providers to assist it using a variety of contractual approaches. Where it does serve these estates, it removes any obligation on Telstra to act as IPOLR for those developments.

Where a new development is provided with a voice-only or entry-level-only broadband by Telstra, it will obtain access to next generation broadband via the NBN rollout (or via another network if serviced by an alternative provider).

NBN Co will publish and keep up to date its detailed business rules[6] for determining whether a new development is within or outside the fixed line footprint, and for developments are outside the fixed line footprint, whether to service them with fixed line access technology (thereby expanding its fixed line footprint), or with wireless or satellite access technology.

NBN Co will keep and publish on its website an up to date list of developments that it determines are not its responsibility to service as IPOLR and the reason for this decision. Such decisions will be published within seven days of its being made.

4.4. The role of Telstra

Telstra can decide what technology it uses to support voice services, but is encouraged to provide broadband capability as well to the extent possible. Telstra may seek to negotiate additional payment from NBN Co and/or developers for providing broadband. It will be open to Telstra and NBN Co, as IPOLRs, to discuss ways to fast track broadband in areas that otherwise only receive Telstra's voice solution (e.g. by Telstra installing FTTN). There may be instances where developments are best serviced on an interim basis using wireless technology pending rollout of the NBN. The expectation is such a service would be supplied for no more than 12 months.

Telstra can charge for infrastructure consistent with the general principles applying in new developments. This provides a further incentive for developers to consider paying an alternative provider an incremental sum for a superior solution.

4.5. Advance notice periods

As noted above, in addition to any obligations to transfer the ownership of pit and pipe and charges, the IPOLR can require developers to provide them with notice of a specified period before they are obliged to provide infrastructure. Unless an IPOLR agrees otherwise in writing, the maximum required notice period is six months (180 calendar days) prior to the development's estimated first occupancy date, on the assumption that the networks need to be ready for service and to activate

[6] These rules are additional to (and more detailed than) the multi-technology rollout rules published by NBN Co on 13 November 2014 at www.nbnco.com.au/corporate-information/media-centre/media-releases/nbn_co_outlines_principles_for_multi_technology_rollout.html#.VHK_io2KBD8.

customers at or prior to this date. Pit and pipe should be available for the installation of cabling four months (120 calendar days) before the ready for service date.

In the event that a developer does not provide this period of notice, the IPOLR can advise that it will not provide infrastructure for six months (180 calendar days) from the date on which notice was provided, but it cannot refuse to provide infrastructure outright simply because the developer has provided late notice. That is, the IPOLR only needs to provide infrastructure within six months (180 calendar days) of the developer's notification, but failure to give timely notice does not relieve the IPOLR of its obligations to service a development. The same principle also applies in relation to the four month requirement described above.

Where an IPOLR is unable to provide infrastructure by the relevant 'ready for service' date, and it is responsible for the delay, it should meet the cost of providing alternative interim solutions such as mobile telephony and, in the case of NBN Co, broadband. Such solutions would be able to be sourced competitively, noting NBN Co's wholesale-only obligations. Where the developer is responsible for the delay, the carriers should be able to seek compensation from the developer for providing the alternative solution.

IPOLRs will be expected to include in their contracts with developers penalty provisions that would apply in the event the IPOLR failed to meet it delivery deadline.

4.6. Commercial variations and disputes

Both NBN Co and Telstra can seek to use alternative providers' networks to fulfil IPOLR obligations, either by seeking access to them on a commercial basis (or regulated basis if subject to regulation) or by contracting the provider to fulfil the obligations on their behalf. The Government reserves the right to place carrier licence conditions on providers servicing an area to require them to act as IPOLR where this is economically efficient.

NBN Co and Telstra will publish information on the developments they service commercially and as IPOLRs on a website managed by the Department of Communications.

The Government proposes the Communications Alliance establish an independent dispute resolution mechanism to adjudicate on IPOLR responsibilities in the event of disputes or complex situations (e.g. a large land release with multiple stages and developers, where the aggregate number of lots is more than 100 but individual stages may be less). The cost of this mechanism will be met by the industry. Alternatively, the Government will establish a suitably qualified arbitral mechanism, funded from an industry levy.

4.7. Co-ordination between providers

Under telecommunications law and Telstra's Universal Service Agreement with the Commonwealth, Telstra is responsible for providing a standard telephone service upon reasonable request across Australia.

Generally Telstra can use whatever infrastructure it wishes to provide this service. In NBN Co's fixed line footprint, Telstra is structurally separated and expected to use the NBN. In the NBN fixed wireless and satellite footprint Telstra must continue to provide infrastructure (e.g. copper networks where available or terrestrial wireless).

Where new developments are outside NBN Co's fixed line footprint, the possibility arises that they could be serviced by two networks – one provided by Telstra for voice services, and the other by

NBN Co or another network provider for broadband. Such an outcome may not be efficient. To promote economically efficient outcomes in such situations, the Government proposes to permit Telstra, NBN Co and other providers to co-ordinate provision of infrastructure.

This could take the form of a co-ordination forum where Telstra, NBN Co and other providers discuss how particular developments outside the NBN fixed line footprint should be serviced, particularly where they are close to the edge of the footprint. The forum could also resolve responsibility for sub-100 lot infill developments, where conflicts sometimes arise as to how they are served.

As noted, the Government proposes the Communications Alliance establish an arbitrator to determine IPOLR responsibilities in the event of disputes or where a particularly complex situation arises (e.g. a large land release with multiple stages and developers, where the aggregate number of lots is more than 100 but individual stages may be less).

In the first instance the Government envisages involved parties seeking any necessary authorisation from the ACCC. If necessary, however, the Government is open to providing statutory cover to authorise industry co-ordination to the extent it is required and does not harm competition.

At a minimum, NBN Co will need to notify Telstra where a decision has been made to service a new development with fixed wireless or satellite technology.

4.8. Pit and pipe specifications

As noted developers remain responsible for meeting the cost of pit and pipe infrastructure. IPOLRs and carriers are not expected to service a new development in the fixed line footprint unless pit and pipe is provided by the developer or they have agreed to other arrangements (e.g. a turnkey solution). Moreover Part 20A of the *Telecommunications Act 1997* requires constitutional corporations involved in new developments to ensure fibre-ready pit and pipe is installed.

Developers would continue to be free to source pit and pipe from independent contractors (i.e. non carriers) with a view to keeping costs down. Equally carriers could choose to provide pit and pipe as part of turnkey packages or other solutions.

Where a developer contracts a carrier to provide a turnkey solution or works closely with the carrier in providing the pit and pipe, it is generally sufficient for the developer to follow the carrier's specifications. This will particularly be the case where the carrier has been pre-qualified to service new developments or is subject to a licence condition. For example, alternative providers generally have their own specifications and NBN Co has its own. Telstra requires developers to follow the Communications Alliance Industry Guideline, *Fibre Ready Pit and Pipe Specification for Real Estate Development Projects* (G645:2011)[7]. Working closely with the carrier will also minimise issues and costs with compliance/conformance and acceptance of the pit and pipe by the carrier.

However, if a developer wants to source pit and pipe from an independent contractor, it is important that there are clear specifications to follow to ensure facilities of an appropriate standard are installed and regulatory requirements are met.

While the Communications Alliance has released industry guidelines on pit and pipe specifications as noted above, these are not mandatory and do not provide an adequate benchmark for non-carriers.

[7] See: http://www.commsalliance.com.au/__data/assets/pdf_file/0014/32450/G645_2011.pdf.

To resolve this issue, the Minister will ask NBN Co to consider simplifying its specification with the aim that it be promulgated as the default industry standard which non-carriers would need to follow. The standard could include a requirement that express conduits be provided. It would also include an exemption permitting licensed carriers servicing new developments under the carrier licence condition to diverge from these specifications where they have their own established alternatives and they comply with the industry guideline.

Alternatively, if the Communications Alliance can put it in place comparable, effective industry-based arrangements, the Minister would defer to these arrangements.

NBN Co will also be asked to review its guidance and processes for the acceptance of third party pit and pipe with a view to reducing costs in this area.

The Government will amend Part 20A and Schedule 3 of the *Telecommunications Act 1997* to:

- Require pit and pipe owners that are not carriers to maintain their pit and pipe.
- Provide for certification of pit and pipe installed by developers.
- Ensure carriers' rights to maintain and modify pit and pipe under Schedule 3 apply to pit and pipe transferred from developers to carriers.

4.9. Voice service provision

As noted above, Telstra has an ongoing obligation under law to provide access to a standard telephone service on reasonable request. It receives a mix of government and industry funding to assist it in doing so.

Telstra will continue to be responsible for providing voice services under the USO. It will, however, have increased flexibility as to how it does this, and in instances where a suitable voice service is available from other providers there will be a relaxation of its obligations.

Where the fixed line NBN is ready for service, the Government expects that Telstra will use the NBN consistent with the Definitive Agreements.

Where the fixed line NBN is not yet rolled out or ready for service, it is open to Telstra to use its own or another network to deliver voice services. Where a development is serviced by an alternative network and voice services are already available, Telstra will have the option of not servicing the development, or servicing it with wireless technology. Where a developer has failed to install pit and pipe, Telstra will also have the option of providing voice services using wireless technology.

4.10. Role of state and territory governments

Allowing IPOLRs to charge developers for the provision of telecommunications infrastructure runs the risk that developers may simply fail to contract carriers to provide it. All the indications are that developers are unlikely to do this because their developments will be difficult to market without telecommunications infrastructure (particularly if information about estates is published online) and there will be a negative backlash from customers and brand damage. However, if the risk eventuates, consumers will be inconvenienced and they and carriers will face additional costs.

The Australian Government will continue to work with state and territory governments directly and through the Council of Australian Governments (COAG) process to amend planning laws to require the provision of quality telecommunications infrastructure, to the greatest extent appropriate, as a condition of development approval and occupancy. In this regard the Australian Government notes

that the Victorian Government amended the Victorian Planning Provisions in February 2013 to require the provision of telecommunications infrastructure in most new developments[8].

[8] The Victorian Planning Provisions are available at http://planningschemes.dpcd.vic.gov.au/schemes/vpps. Section 66.01-1 deals with the planning and provision of telecommunications infrastructure in new developments.

5. BACKHAUL

A key issue servicing new developments is the cost of infrastructure connecting them to the wider telecommunications network (for example, the local exchange, or an NBN PoI). This part of the network – typically an optical fibre link – is called 'backhaul' here. In the case of the NBN, backhaul is generally the connection from a development to the closest PoI.

If a new development is an infill project in a brownfields area, backhaul may be readily available and the cost of provision low. But if a project is in a new or previously vacant greenfields area (or the project is large) new or augmented backhaul may be needed. While the cost of managed backhaul (a service connecting a new estate provided by a carrier such as Telstra or Optus which already has fibre running past the location) has declined in recent years, the provision of new backhaul infrastructure can still impose a significant cost – potentially hundreds of thousands of dollars upfront – and take significant time to provide, potentially leading to delays in providing services.

5.1. Backhaul costs

If developers do not contribute to backhaul costs, there is no incentive for them to factor in the real cost of providing telecommunications to a new development – the cost is 'externalised' and borne by the network operator. In the case of NBN Co this means the cost is borne, in the short term at least, by taxpayers and in the longer term by both taxpayers and consumers. Equally, if developers meet the entire expense of providing backhaul, it may add significantly to the costs of the development (and of the housing it provides).

To address these competing concerns, the Government proposes two complementary measures. While these measures focus on NBN Co, they would influence the operation of other providers.

The Government sees these as interim measures pending a more definitive, enduring and sustainable solution to the backhaul issue. This may include an option, phased in over time, whereby developers contribute much more to the cost of backhaul over time.

5.2. Provision of backhaul by NBN Co

First, the Government proposes that NBN Co provide access to its existing backhaul network to alternative network operators on commercial terms where it has backhaul to the nearest PoI available. Like all NBN services, this will be a service regulated by the ACCC.

Other carriers would continue to be able to compete in supplying backhaul to such new developments, as they can today.

5.3. Capped backhaul contributions

Second, the Government is proposing developers contribute to backhaul costs incurred by NBN Co to meet its obligations in new estates. Therefore cost recovery will be partial only at this stage.

NBN Co will not charge developers for backhaul where NBN Co has transit that is readily accessible (e.g. the development requires a backhaul extension of no more than one kilometre by route distance from an existing NBN Co development or transit infrastructure).

Third, where NBN Co does not have backhaul capacity available and would need to build a backhaul or transit extension specifically for the new development:

1. Developers will make a co-contribution to the incremental capital cost of providing backhaul to a new development of up to 50 per of this capital costs up to $1000. This means the developer contribution toward the first $1000/lot of capital costs is capped at $500[9].
2. Developers will meet all backhaul costs in excess of the first $1000 in almost all circumstances. NBN Co will apply a commercial rate card. The rate card will take into account opportunities to amortise costs over other users where this is reasonably foreseeable. In exceptional circumstances NBN Co may consider alternative financial arrangements.

Under this principle, connection of the new development is effectively treated as an NBN network extension, much as a small community outside the fixed line footprint would be treated. These rules will apply where NBN Co as IPOLR assesses that a wireline solution is the most cost-effective option; that is, the development is inside its fixed line footprint. Outside the fixed line footprint, NBN Co may offer a fixed wireless or satellite solution, although it would be open to a developer to negotiate a fixed line network extension.

To ensure developers weigh the implications of declining to negotiate network extensions and locating estates in areas where they can only be served by costly access technologies such as fixed wireless or satellite, developers will pay a co-contribution of $1100 for MDUs and $1300 for SDUs (comparable to the cost of a fixed line solution) if estates are to be serviced by wireless or satellite. If this amount is not paid by the developer, it will be levied directly on new (as opposed to existing) fixed line or satellite users. NBN Co will need to record the entitlements of new lots in the wireless and satellite footprint – and this information should be publicly available.

In summary, the charges NBN Co could levy for backhaul would be:

Scenario	**Charge per lot/premises**
Development is in fixed line footprint. NBN backhaul is available or readily accessible (<1 km by route distance)	$0
Development is in fixed line footprint. NBN backhaul is not readily accessible – first $1000 per lot of incremental costs.	Up to 50% of incremental capital costs, capped at $500 of the first $1000.
Development is in fixed line footprint. NBN backhaul is not accessible – costs beyond the first $1000.	100% of incremental capital costs over $1000, as set out in rate card.
Co-contribution to fixed wireless or satellite	$1100 (MDUs) or $1300 (SDUs)

[9] To give another example, in addition to those set out earlier, if it was to cost NBN Co $300,000 to extend backhaul to a development and the development consisted of 2,000 lots, the developer would pay $75 per lot (($300,000/2000 lots = $150) x 50% - that is, 50% of the cost up to the first $1000). Conversely, if it was to cost NBN Co $300,000 to extend backhaul to a development and the development consisted of 100 lots, the developer would pay $2500 per lot. That is, of the $3000 average cost per lot ($300,000/100) it would pay the first $500, NBN Co would pay the next $500 (i.e. the first $1000) and the developer would pay the remaining $2000, bringing its total contribution to $2500 per lot.

6. ALTERNATIVE PROVISION MODELS

Consistent with its 2013 election policy, the Government considers developers should be free to contract with non-NBN parties to provide telecommunications – and as long as the infrastructure in their estate adheres to NBN standards, have certainty that they can transfer the network and responsibility for its operation to NBN Co, and recover their costs.

6.1. Build and transfer

To test the feasibility of this model, NBN Co will trial arrangements where developers, contractors or alternative network providers enter into contracts with NBN Co under which the developer, contractor or alternative network provider builds and transfers infrastructure at a pre-agreed price.

The trials will take place in at least three states and cover at least 3000 lots or premises in total, preferably in a mix of development types. The trials should commence before 1 July 2015. NBN Co will report to Shareholder Ministers on outcomes within two months of the trials' completion, and provide advice on the company's proposed further use of this model or variants of it.

The trials will require networks built to NBN Co's specifications. Insofar as networks are built in line with NBN Co's specifications and other contractual requirements are met, NBN Co will take ownership and pay the developer, contractor or alternative network provider a pre-agreed price.

It is envisaged these arrangements will be pre-agreed before construction begins, so all parties have certainty regarding what must be built by when, and the payments involved. It will be a commercial matter for NBN Co as to whether it enters into trial agreements for developments already underway (i.e. for which it has no prior agreements).

6.2. Other contractual models

It will be open to NBN Co to enter into agreements with developers, contractors and alternative network providers for networks to be built and operated using a wide range of models – including co-investment and build-own-operate models. To be of value these models must promote efficient and timely completion of infrastructure, and be value accretive to NBN Co (i.e. have benefits that exceed costs).

A particular concern in this regard for the Government is the significant cost NBN Co is incurring in making additional Per Subscriber Address Amount (PSAA) payments to Telstra for greenfield or infill developments with fewer than 100 lots or premises in fixed line areas that Telstra connects with copper while the NBN is being rolled out. The Government sees scope for NBN Co to reduce these costs by servicing more of these developments with the help of alternative providers. Models NBN Co could employ include:

- Build and Transfer, in which the developer or alternative provider builds the network and transfers it to NBN Co upon completion at pre-agreed terms;
- Build, Own, Transfer, in which the developer or alternative provider builds the network, operates it for a specified period and then transfers it to NBN Co at pre-agreed terms;
- Build, Own, Lease, Operate in which the developer or alternative providers builds and owns the network and leases it to NBN Co, or operates it on NBN Co's behalf;
- Build, Transfer, Operate, in which the developer or alternative provider builds the network, then transfers it to NBN Co upon completion at pre-agreed terms, and then operates it via a lease-back arrangement or as an NBN Co franchisee;

- Franchises, in which NBN Co builds the network, while an alternative provider then operates it under a lease-back or franchise arrangement;
- Public Private Partnerships, in which the developer or an alternative provider and NBN Co enter into a partnership to build and/or operate a network under pre-agreed terms; and
- Joint Ventures, in which the developer or an alternative provider and NBN Co establish a separate legal entity to build and/or operate a network under pre-agreed terms.

Some models may be more suited to certain scenarios than others and NBN Co is free to choose the best model for each scenario, subject to the overall objective of ensuring quality telecommunications services are available in a timely fashion, minimising costs, and competing on a competitively neutral basis.

For example:

- In infill areas where the NBN fixed line network has not yet been rolled out, NBN Co might use a Build and Transfer model.
- In broadacre areas where the NBN has not yet rolled out, NBN Co might use a Build, Own, Transfer model.
- In areas where alternative providers are established but NBN Co has to fulfil IPOLR obligations NBN Co may seek access to existing networks to fulfil its obligations, or come to an alternative arrangement such as sub-contracting the IPOLR role.

The use of some of these models will be trialled by NBN Co as part of the trials noted above. NBN Co can also pursue such models separately, consistent with the Government's general guidance to NBN Co to consider innovative delivery models including co-investment and public-private partnerships.

7. TRANSITIONAL ARRANGEMENTS

The Government recognises the development industry is complex and, at any one time, there are many thousands of projects at different stages of planning and implementation, involving different completion dates. It recognises that some projects may have been planned on the basis of certain economic assumptions about telecommunications provision and there are a range of contracts in place (including between developers and NBN Co). Some of these contracts are long term, covering thousands of lots or premises.

The Government does not intend that the changes set out here should affect the terms of existing contracts. This ultimately is a matter for the contracting parties including NBN Co and developers.

To give developers time to plan for new charges, the Government proposes that NBN Co cost recovery charges for deployment and backhaul should apply for all applications received on or after 1 March 2015. That is, these charges will not apply retrospectively to any applications already accepted by NBN Co, but will apply to all new applications from 1 March 2015. The introduction of the proposed 6 month notification period will be phased in as necessary to take account of this date.

The Government proposes that NBN Co introduce the end-user connection charge as soon as practicable and no later than 1 March 2015, noting the need to consult with RSPs on implementation.

Arrangements for provision of NBN backhaul to alternative providers should be in place and operational as soon as practicable and no later than 1 July 2015.

While charges may be payable from these dates, and developers will be liable for them, their actual collection may be subject to appropriate systems being developed and implemented. This can be reflected in IPOLR contracts as required.

The Government recognises the importance of clear communication to a successful transition process, and will give attention to this.

8. GLOSSARY

ACCC	The Australian Competition and Consumer Commission – the national competition and consumer regulator
ACMA	The Australian Communications and Media Authority – an industry regulator
CA	The Communications Alliance – a telecommunications industry body
COAG	The Council of Australian Governments – a forum for the Australian, State and Territory governments to co-ordinate their policies
CSG	Customer Service Guarantee – rules about connection and repair times for telephony
FTTN	Fibre to the node – an access technology using optical fibre and copper
FTTP	Fibre to the premises – an access technology using optical fibre only
HFC	Hybrid fibre coaxial cable – an access technology built to carry pay TV
IPOLR	Infrastructure provider of last resort – a carrier obliged to connect new premises
MDU	Multi-dwelling unit – a building containing multiple residences or businesses
NBN	The National Broadband Network – a high-speed broadband network being constructed by the Australian Government
NBN Co	NBN Co Limited – the Government-owned company building and managing the NBN
SDU	Single-dwelling unit – stand-alone premises such as detached suburban houses
USO	Universal Service Obligation – obligation to offer telephone services to all premises
VOIP	Voice over Internet Protocol – a means of providing voice service over the internet