



Australian Government

Telecommunications infrastructure in new developments

A new approach to competition

Effective 1 March 2015

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1. OVERVIEW

This document sets out the Australian Government's revised policy on the provision of telecommunications infrastructure in new developments. The policy's fundamental objective is to increase efficiency and broaden choice in the provision of telecommunications in these areas by encouraging fair competition and ensuring some recovery of costs up front. The policy is effective from 1 March 2015. Page 37 has a glossary of terms used in the document. All charges are GST inclusive, unless specifically marked otherwise.

The key elements of this policy are:

1. Developers will choose among competing infrastructure providers. Competition will put downward pressure on costs and force providers to develop better offerings.
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 be the universal service provider for a basic voice service, with flexibility in the method of delivery and having regard to supply by other providers.
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 charge the retail service provider (RSP) which places an order for an NBN service to premises in a new development a one-time end-user¹ contribution of \$300. It is anticipated that RSPs will pass the charge through to end-users.
7. NBN Co will charge a deployment contribution on developers for in-estate infrastructure. The charge is \$600 per single-dwelling unit lot/premises (SDU) and \$400 per multi-dwelling unit premises (MDU).
8. NBN Co will not charge developers for backhaul if there is available backhaul for NBN Co to connect a new development. Where it does not have backhaul available to connect a new development, NBN Co may charge developers a contribution of up to 50 per cent of the first \$1000 per lot of capital costs it incurs in providing backhaul. Developers will be liable for up to 100 per cent of backhaul costs in excess of \$1000 per lot.
9. NBN Co will provide developers with information relating to backhaul availability throughout the development process that will enable them to make informed costing decisions.
10. NBN Co is to establish a process for identifying market demand for the provision of backhaul services on commercial terms to alternative network operators by 1 July 2015 with a view to bringing such services on stream as quickly as demand warrants and NBN Co's processes allow.
11. While NBN Co will face competitive pressure to ensure its wholesale services can support the delivery of broadcasting and other value-added services by RSPs, NBN Co is required under

¹ 'End-user' is used for convenience and should generally be understood as the customer with whom the retail service provider has a contract.

this policy to endeavour to ensure its network supports the products that RSPs need to provide to meet consumer demand in these areas in new developments.

12. NBN Co will refine its processes for bringing RSPs onto its network and initially connecting new end-users in new developments so as to improve end-user experience.
13. NBN Co will work with stakeholders to simplify 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 will be able to diverge from this specification where they have their own established alternatives and they comply with the industry guidelines published by the Communications Alliance.
14. Industry (through the Communications Alliance) will establish an adjudicator to resolve disputes over IPOLR responsibilities. Alternatively, the Government will establish an adjudicator at industry's expense.
15. NBN Co will be able to purchase networks built to its specifications at pre-agreed prices from infrastructure providers, contractors or developers.
16. Industry should seek to minimise the number of business-to-business interfaces. If there is commercial demand for it, NBN Co will make the specifications of its interface available to alternative providers on an ongoing basis on fair commercial terms so they can operate their own interface on the same basis.
17. The Federal Government will work over time with state, territory and local governments and other stakeholders to have planning laws support quality telecommunications infrastructure and protect consumers in new developments.

2. CONTEXT AND OBJECTIVES

This policy reflects the Government's view that policy changes introduced in 2011 to the provision of telecommunications in new developments (the 2011 policy update)² 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 fair competition.

2.1. Competition, choice and the NBN

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 there is greater scope for competition (as long as competition delivers levels of network performance and retail diversity and choice 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 users. NBN Co operates on a wholesale-only basis and similar rules apply to other new superfast broadband access networks. As most areas are likely to be served by a

² *Fibre in New Developments: policy update*, released 22 June 2011. See: www.communications.gov.au/__data/assets/pdf_file/0017/136421/Fibre_in_New_Developments_Policy_Update_Statement_22_June_2011.pdf.

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 will replace Telstra as the IPOLR in new developments. Telstra will retain this role in relation to voice service in NBN Co's 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.

Moreover, since 1997 Australia has had an open market in telecommunications. This means it is open to other providers to enter the market and compete to provide infrastructure in new developments. Equally, developers have a choice of infrastructure providers.

In a competitive market, developers and state, territory and local 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 IPOLRs. However, competition would be seriously distorted if NBN Co or Telstra operate as IPOLRs for no charge. This is a problem that has plagued this part of telecommunications since 2011, if not 1997.

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

In this competitive environment, planning departments in the states and territories also need to consider changes to legislation to ensure developers give appropriate consideration to telecommunications, given its importance in daily life and the penalty imposed on consumers if developers overlook its provision.

New developments vary greatly in their size, character, stage of occupancy and location. They may be greenfield or brownfield (infill); residential, commercial, industrial, special purpose or mixed; 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 aims to be flexible enough to accommodate these differences when it comes to the way telecommunications services are 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 developments are often serviced 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 that operates at or above those standards.
- 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 service.

- Similarly, consumers must be free to choose among competing RSPs. 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).³ While the AGCNCO found NBN Co had not breached competitive neutrality guidelines at that time, the Government considers NBN Co should be (and should be seen to be) a competitor not unfairly reliant on its Government ownership and funding.
- The Government (like most of its predecessors since the early 1980s) believes end-users should, to the extent possible, pay for infrastructure. This enduring principle was reiterated in 2014 by the Productivity Commission and the Vertigan Cost-Benefit Analysis and Review of Regulation.⁴ 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 not recovered upfront, this must be consistent with competitive neutrality.
- NBN Co has been established and directed to operate commercially. A competitive market means NBN Co needs to be able to participate and compete. NBN Co should not be expected to simply leave new developments to private providers, but NBN Co will also have a role where private operators do not want to service them.
- In the spirit of commercial operation, NBN Co should not undertake uncommercial rollouts in new estates (e.g. an isolated block of lots in an area otherwise served by an alternative provider) except in its provider of last resort capacity. Likewise, it should ordinarily avoid duplicating or overbuilding⁵ existing high-speed broadband networks in new estates except in cases where it has obtained consent from the Government for this in advance. These principles are noted because of their relevance to this topic, but will be articulated in the next revision of the Government's Statement of Expectations rather than this document.
- Since the NBN includes loss-making networks in urban fringe, regional, rural and remote areas, and the NBN Co must fund 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. The Government's wider Telecommunications Regulatory and Structural Reform package released in December 2014⁶ provides for the development of such a funding mechanism.

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

³ Australian Government Competitive Neutrality Complaints Office, *NBN Co*, Investigation No. 14, 2011.

⁴ 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.

⁵ The meaning of overbuilding is discussed on page 18 below.

⁶ Australian Government, *Telecommunications Regulatory and Structural Reform Paper*, released 11 December 2014. See: www.communications.gov.au/data/assets/pdf/file/0020/243902/Telecommunications_Regulatory_and_Structural_Reform_Paper_-_11_December_....pdf

levels of government. This policy seeks to balance these varied interests while achieving the objectives set out above.

3. KEY ELEMENTS OF THE NEW DEVELOPMENTS POLICY

The key feature of the Government's arrangements is fair competition. Any provider capable of competently installing and operating infrastructure in new developments on an ongoing basis 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 telecommunications infrastructure in their developments. To support competition, developers will need to make a greater financial contribution to the cost of providing such 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 compete effectively 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 new policy will significantly level the playing field. Developers and, via their RSPs, end-users will both need to make larger upfront contributions. NBN Co will nevertheless recover some costs of servicing new developments over time.

At the end of the day, it will be up to all 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, the party responsible for paying them, and the dates of their effect, noting that charging is being phased in. 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.

Charges can be indexed in line with inflation.

NBN Co Charge Per Premises/Lot		Party Responsible	Date of Effect
End-user contribution per premises	\$300	RSP contracted with NBN Co ⁷ (RSP may pass through to end-user)	1 July 2015 subject to necessary implementation processes (NBN Co will apply this charge to all new orders for services in new developments)
Deployment contribution per lot/premises (SDU)	\$600	Developer	1 March 2015 (applications approved on and after this date)
Deployment contribution per premises (MDU)	\$400	Developer	
NBN backhaul already available	No charge	N/A	1 July 2015 (applications approved on and after this date)
Backhaul costs up to \$1000 per lot/premises	Up to 50% of costs	Developer	
Backhaul costs over \$1000 per lot/premises	Up to 100% of costs over \$1000 (in addition to up to 50% of the first \$1000)	Developer	
Wireless/satellite contribution per premises (SDU)	\$1300	Developer	1 July 2015 (applications approved on and after this date)
Wireless/satellite co-contribution per premises (MDU)	\$1100	Developer	

⁷ It is envisaged NBN Co would charge the service provider (whether retail or intermediary) with whom it has the direct contractual relationship under its Wholesale Broadband Agreement in relation to the service concerned. This is in contrast to any intervening RSPs that may be involved downstream in the supply of the service to the end-user. This is simply to recognise there may be multiple service providers involved in servicing an end-user.

The specific definitions of what qualifies as an SDU and what qualifies as an MDU will be a matter for NBN Co in the first instance. Its definitions will need to be consistent with generally accepted industry practice.

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.

Differing deployment charges of \$600 per lot/premises for SDUs and \$400 per premises for MDUs are proposed because costs to connect them vary. MDUs are typically less expensive to service due to their higher density.

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.

The level of charges set by other providers is a commercial matter for them.

In terms of timing, it is envisaged that NBN Co would seek part payment for deployment contributions prior to and at the completion of the works in the estate and would seek the one-time end-user contribution from the RSP after an order is lodged. Where backhaul is required, NBN Co would be able charge an initial payment (deposit) for backhaul contribution prior to starting work, with full payment following completion. However, payment arrangements may evolve over time and are ultimately a commercial matter for NBN Co, as they are for other providers.

These charges apply to typical development projects providing residential, business and other premises. Consistent with established practice, the provision of telecommunications to one-off major projects like major office complexes, industrial sites, commercial premises, hospitals, airports, hotels or similar, would be subject to commercial negotiations.

SOME EXAMPLES OF NBN CO CHARGES INCLUDING BACKHAUL

An estate of 200 freestanding houses (SDU lots/premises) is already passed by NBN Co's transit network. Each RSP will pay an end-user contribution of \$300 to NBN Co when placing the order for an end-user's premises. The RSP will be able to pass the contribution on to the end-user. The developer will pay NBN Co deployment charges of $200 \times \$600 = \$120,000$. Total developer contribution: \$120,000.

An estate of 1000 lots zoned for 1000 freestanding houses (SDU lots/premises) 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 RSP will pay an end-user contribution of \$300 to NBN Co when placing the order for an end-user's premises. The RSP will be able to pass the charge on to the end-user. The developer pays NBN Co deployment charges of $1000 \times \$600 = \$600,000$. NBN Co also charges the developer a backhaul contribution of $\$400,000 \times 50\% = \$200,000$. Total developer contribution: \$800,000.

An urban infill development of 400 townhouses (MDU premises) 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 RSP will pay an end-user contribution of \$300 to NBN Co when placing the order for an end-user's premises. The RSP will be able to pass the contribution on to the end-user. The developer pays NBN Co deployment charges of $400 \times \$400 = \$160,000$. NBN Co could also charge the developer a backhaul contribution of $\$100,000 \times 50\% = \$50,000$, 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 (SDU lots/premises) 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 RSP will pay an end-user contribution of \$300 to NBN Co when placing the order for an end-user's premises. The RSP will be able to pass the contribution on to the end-user. The developer pays NBN Co deployment charges of $200 \times \$600 = \$120,000$. NBN Co also charges the developer a backhaul contribution of $\$1000 \times 50\% + \$500 \times 100\% = \$1000/\text{lot}$. Therefore, for 200 lots, the total backhaul contribution is \$200,000. **Total developer contribution: \$320,000.**

An eco-friendly retirement development (combination of MDU and SDU lots/premises) 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 remains responsible for the delivery of voice services. NBN Co determines fixed wireless is optimal and charges the developer the co-contribution: $\$1100 \times 100 \text{ MDUs} + \$1300 \times 100 \text{ SDUs} = \$240,000$. The developer decides to pass through \$300/premises of this to owners. Each home owner therefore pays a co-contribution of \$300 for fixed wireless infrastructure (or a total of $200 \times \$300 = \$60,000$). Each RSP will pay an end-user contribution of \$300 when placing the order for an end-user's premises. The RSP will be able to pass the contribution on to the end-user. 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 to providers. To address these concerns the Australian Government will work with state, territory and local governments to put in place planning laws to ensure all developments are adequately serviced. In all instances, providers of last resort will be available to service developments, subject to the payment of relevant charges.

3.3.2. Minimum service standards

Infrastructure in new developments must support high-speed broadband and voice services.⁸ 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 (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 (Mbps), with upload capability being proportional. Carrier licence conditions will be amended to ensure that, in servicing new developments, network operators provide solutions consistent with those to be delivered on the NBN. But it will be important that these requirements do not inhibit innovation. Compliance with any such rules could, over time, be integrated into state and territory planning processes.

3.3.3. Access technology

Consistent with a multi-technology mix model the Government has adopted for the NBN, 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) is expected to 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 is expected to provide high-speed broadband sooner and at far less cost.

As demand for higher download and upload data rates increases, FTTP will readily provide the capacity required.⁹

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).

3.3.4. Retail service competition

One of the strengths of the NBN is the range and diversity 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

⁸ 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* (which require 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.

⁹ 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.

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, this will, in the first instance, be left to industry. If there is commercial demand for it, NBN Co will make the specifications of its interface available to alternative providers on an ongoing basis on fair commercial terms so they can operate their own interface on the same basis.

It is also open to NBN Co to obtain access to infrastructure owned by alternative network operators and resupply services – 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 provide NBN consistent outcomes.

If the developer simply 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 conditions. Clearly construction firms will need to have regard to the obligations on carriers and build networks accordingly.

It is generally envisaged that a developer that is subdividing land would be responsible for ensuring telecommunications are brought to the development and reticulated within it, and made available to each lot of land. Developers of MDUs would be responsible for ensuring telecommunications are reticulated to individual units in the developments. It is envisaged these matters can generally be determined as part of a carrier's day-to-day business practices.

It is envisaged that any SDU charges incurred in developing land would be offset if that land was subsequently used for MDUs. For example, if a developer was originally charged \$600 for an SDU lot, but that lot was then used to construct five MDU premises (where possible), the MDU charges would be payable for each unit, but the SDU charge would be offset against it. It is envisaged such details would be covered in carrier contracts.

3.4.1. Planning

Because of the complexity, costs and logistics of providing telecommunications infrastructure in new developments, developers must consider telecommunications provisions in the earliest stages of their planning and costing processes, including pre-acquisition. They should engage with prospective providers of telecommunications infrastructure and decide upon their provider as early as possible. To assist them in this regard, NBN Co will be required to provide information throughout the planning process. This will put competitive pressure on alternative providers to do the same. NBN Co will also adopt a strategic approach to network provisioning in new developments, including having regard to the strategic growth corridors of planning authorities.

State, territory and local governments can play an important role in this regard by incorporating supply of telecommunications into their development application processes and laws.

3.4.2. Choice of provider

To choose a network provider, a developer should ask appropriately qualified network operators (including NBN Co) and/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 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, at least to some extent, influenced by what IPOLRs charge.

While NBN Co and Telstra are providers of last resort and are obliged to provide infrastructure according to their responsibilities set out below, they are also free to compete in the market as they wish. In the case of NBN Co, the Government's clear expectation is that it also competes aggressively, but fairly, as indicated elsewhere in this policy. This is inherent in NBN Co's commercial operation. While developers are encouraged in a competitive marketplace to shop around for the provider who can best meet their needs, this does not mean they have to try private competing providers before they can approach NBN Co or Telstra. They can be approached first, at the same time as other providers or later. That they are called providers of last resort does not mean developers can only use them if no other provider will take on their estates. Rather, it means that they are the only providers obliged to offer and provide services on commercially agreed terms to an estate in their area of responsibility if asked to. In contrast, other providers can refuse as they wish (unless they are the IPOLR for the relevant area, as explained in section 3.6.2).¹⁰ Any competing provider saying that NBN Co and Telstra can only be used if there is no alternative private provider is not accurately reflecting the policy. The objective of the policy is to promote competition between providers, including NBN Co and Telstra, in order to push costs and prices down.

It will be a matter left to stakeholders and entrepreneurs as to whether they see merit in establishing an online clearing house or similar forum to help developers and carriers identify one another. However, the Department of Communications is establishing an online portal where an accurate map of the location and boundaries of new developments and the identity of carriers serving them will be maintained. This should assist developers in identifying carriers servicing the area in which they intend to develop property, and help resolve disputes.

Developer associations may like to establish webpages with contact details of carriers that specialise in servicing new developments.

3.4.3. Pit and pipe infrastructure

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

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. From the Government's perspective, there is merit in carriers taking ownership of pit and

¹⁰ While the term 'infrastructure provider of last resort' may be interpreted as designating a provider that can only be used if there is no other option, it is widely used in the telecommunications industry to identify a provider that has no option but to offer and provide service on commercially agreed terms if requested (i.e. it is always there as a last resort) even though the same provider may be very actively competing against other providers in the market place. For example, Telstra has always competed in the market but was also the provider of last resort in areas no-one else wanted to service. While using an alternative term like 'default provider' has been considered, IPOLR is a widely used term in the industry and sufficiently clearly understood that it has been retained.

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 and any other network infrastructure) transferred to carriers just as they apply to similar infrastructure built by carriers themselves. Where pit and pipe is not transferred to a carrier, the Government will consider amending Part 20A of the *Telecommunications Act 1997* to require the owners to maintain it.

If a developer does not choose a network provider, but defaults to the IPOLR, the developer remains subject to the pit and pipe obligations (including charges) applying to supply by an IPOLR.

3.4.4. 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 standard notice period is six months (180 calendar days) prior to the development's estimated first occupancy date. That is, six months is the minimum notice developers must give and the maximum notice carriers can ask for. Parties can always agree alternative arrangements. This arrangement assumes that a network needs to be ready for service and to activate customers by the estimated first occupancy date. In all instances, the earlier notice can be provided, the greater the scope for smooth planning and provisioning.

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. NBN Co asks for a minimum of four months between the provision of pit and pipe and the ready for service date. This is essentially a contractual matter, on which providers can compete.

In the case of an IPOLR, the notice period simply means this is the amount of time an IPOLR has to provide the infrastructure required – it cannot choose to not service a development because the developer has not provided sufficient notice. In other words, if a developer does not provide sufficient notice, it may be told that its development will have to wait until the required period has elapsed, but it cannot be told the IPOLR is not obliged to service the estate at all. This may mean premises in new estates are sometimes occupied before infrastructure is available, creating inconvenience for home buyers and potential reputational risk for developers. This possibility emphasises the need for a developer to engage early and effectively with carriers.

3.4.5. On-sale of land by developers and charging

It is not uncommon for a developer to on-sell land before a development project is completed. The question then arises as to what obligations should apply in relation to the provision of telecommunications infrastructure in relation to that land. Generally this is seen as a contractual matter for the parties concerned: the seller, the buyer and the pre-contracted carrier if any. This could include suitable novation or termination and cancellation rights.

That said, the Government considers some basic principles are important. First, developers should always be able to have their developments serviced. Sale should not affect this. Second, developers should only have to pay once to ensure lots and premises are fully serviced. There should be no double-dipping by one or more carriers, although there may be cost adjustment or compensation payments. Due provision should be made for prior payments, for example, through contract novation or termination arrangements. Third, there should be scope for pre-contracted

commitments to be novated, with pre-contracted timeframes continuing to apply if possible. Fourth, there should be scope for a new developer to choose a new provider if it wishes, subject to the termination of pre-existing contracts. In the case of IPOLRs, minimum notification timeframes would generally apply to new 're-applications', noting that these are flexible at the IPOLR's discretion. Finally, if a new developer (or even the original developer) takes a different approach to developing land, then the charges and timing that apply should be able to be adjusted accordingly. For example if a block that was originally to be for an SDU is now to be used for an MDU with five units, the MDU charges should apply with any necessary charging adjustments.

3.5. Property owner and end-user responsibilities

Increasingly new premises – and particularly apartments – are having telecommunications pre-installed during construction. However, if this is not the case, property owners are generally responsible for organising the individual connection of telecommunications to their premises.

As has been the case for many years, owners 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 RSP of their choice to choose their retail plan and activate their service.

Under the IPOLR arrangements set out below, NBN Co will charge the RSP which places an order for an NBN service to a new development a one-time end-user contribution of \$300. It is anticipated that RSPs will pass the charge through to the end-users (who may not necessarily be the property owner).

The end-user contribution will be charged by NBN Co to the RSP with which it has a direct contractual relationship that first orders an NBN service for a new premises in a new development. NBN Co is expected to levy the charge in relation to orders on and from 1 July 2015, whether the development existed before that date or not, subject to relevant implementation processes. It may take time, for example, for RSPs to update their systems and train staff as well as for NBN Co to develop an implementation method through its commercial arrangements such as the Wholesale Broadband Agreement.

The end-user contribution does not apply outside of new developments. That is, it does not apply to existing premises where in 'brownfields' where NBN networks are being rolled out. However, it does apply to new premises in new infill developments in brownfields.

In the case of tenants of a property that is subject to the end-user contribution, it will be a matter for the contractual relationship between the property owner and the tenant as to who meets this charge. Given tenants are likely to expect ready access to telecommunications in a property they rent, and connection of the NBN will provide ongoing utility, property owners may wish to consider the extent to which they offer a rental rebate in relation to the end-user contribution cost.

3.6. Network operator and infrastructure contractor responsibilities

Network providers, who are typically carriers, 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. However, if developers choose to do this, they will also bear the risk of ensuring system integration and finding a carrier to operate the infrastructure and provide services to occupants in new developments. No provider is obliged to take ownership of infrastructure installed by third parties, other than in accordance with prior agreements. However the general expectation is that where pit and pipe is installed to mandated specification, the carrier taking responsibility for servicing the development would take ownership of this infrastructure. The best way to minimise uncertainty in this regard is to have prior agreements in place.

As indicated in the Telecommunications Regulatory and Structural Reform package released in December 2014, 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 whether and when NBN Co is expected to (or able to) overbuild existing broadband infrastructure that provides NBN-comparable outcomes. For NBN Co to effectively compete in the market, and to ensure alternative providers have an incentive to upgrade their networks over time, NBN Co needs to be able to overbuild in the long term. But in many, if not most, instances it is likely NBN Co will be competing ‘for the market’, but not necessarily ‘in the market’ (i.e. it, like other providers, will compete to be the initial and only provider, not to compete as a subsequent provider). This is particularly true during the period when the NBN is under construction, when it is the Government’s strong preference that NBN Co focus on its primary responsibility (ensuring national access to high speed broadband) before contemplating any overbuilding of existing networks.

The Government will no longer apply a formal ‘Adequately Served’ Policy.¹¹ However the new arrangements will provide a high level of certainty for industry participants and will be largely ‘self-correcting’.

Wherever a network provides NBN-comparable services – including wholesale-only operation, open access, and fulfilment of the IPOLR role – there is no policy basis and little commercial reason for NBN Co to overbuild. This describes networks such as those operated by OptiComm or Pivit that currently have ‘adequately served’ status, and they will continue to be described as such provided the networks are upgraded over time and continue to meet the conditions under which that status was granted. It also describes prospective networks that meet specified standards – and this will be underpinned by the carrier licence conditions to be put in place to safeguard minimum performance.

Under the new policy, NBN Co must advise Shareholder Ministers in advance of construction if it considers there is a commercial case to materially overbuild an existing network providing NBN-

¹¹ For further information on the ‘Adequately Served’ Policy, see www.communications.gov.au/broadband/national_broadband_network/adequately_served.

comparable outcomes. This will be reflected in the next Statement of Expectations. Shareholder Ministers will carefully scrutinise any such case, given the cost inherent in undertaking capital expenditure in areas that already have high speed broadband. Such a commercial case will need to be approved by Shareholder Ministers (or be shown to adhere to a set of strictly defined conditions that Shareholder Ministers determine should be used to judge such requests) before NBN Co can proceed.

If existing networks in new developments do not provide broadly NBN-consistent outcomes, NBN Co may overbuild them. This provides alternative network providers with a strong 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's fixed line networks should offer a higher level of minimum performance, the Government expects alternative networks would also be upgraded as necessary to meet community expectations. If not, NBN Co could consider whether to overbuild.

These overbuild restrictions 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. This will be a condition of the proposed carrier licence conditions to be put in place for carriers servicing new developments. NBN Co and Telstra will have IPOLR obligations outside these areas as described below. It will be open to other IPOLRs to compete to service adjacent development and for developers to contract them. Their presence in an area would be expected to give them a competitive advantage over IPOLRs which are not present in an area.

3.6.3. Geo-spatial information

Carriers will be required by the carrier licence conditions to lodge on an ongoing basis standardised geo-spatial information on the location and boundaries of new developments that they bring into service on and from 1 March 2015 and contract to service from that date. Carriers will also be encouraged to provide information of earlier developments they service, but this will be a matter for them. This will enable the Department of Communications to maintain an accurate, up-to-date online map of new developments and the carriers servicing them. The specified information to be lodged will include the name and boundaries of the estate, the carrier servicing it, and the type of network installed. This will assist carriers to better co-ordinate provision of infrastructure; allow developers to locate carriers operating nearby networks; enable consumers to check who can connect their premises; and allow governments to verify that infrastructure has been provided. The intention is that this data be open source and widely useable. As part of the development of the online map, the Government will consider a size threshold at which new developments would be captured by the map.

3.6.4. Step-in arrangements

In the event that a non-NBN provider is at risk of failing, in a competitive market it is open to other providers including NBN Co to acquire the business on a commercial basis, subject to compliance with relevant rules (e.g. wholesale-only operation; generic merger and acquisition laws). Providers can also enter into commercial arrangements in advance to deal with such eventualities. Ultimately NBN Co and Telstra have provider of last resort responsibilities. This ensures continuity of service.

The continuity of pre-existing services will be a commercial matter for any carrier that takes over a pre-existing operation. This includes IPOLRs, which, while encouraged to innovate and support value-added services, ultimately need only provide minimum requirements, such as, in the case of NBN Co, a Layer 2 bitstream service. The provision of this basic functionality allows RSPs to provide a range of value-added services, with appropriate investment.

4. INFRASTRUCTURE PROVIDERS OF LAST RESORT

When people move into new premises, they expect telecommunications services to be available at an affordable price. In circumstances where a developer is not otherwise able to find a network provider to service a development on a commercial basis, NBN Co and Telstra will continue to have obligations as providers of last resort to offer to service the development on commercially agreed terms.

IPOLR obligations are subject to the advance notice requirements set out in section 3.4.4 above. IPOLRs will be expected to include in their contracts with developers penalty provisions that would apply in the event the IPOLR failed to meet its delivery deadline.

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

4.1. The role of NBN Co

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

- New developments, irrespective of size or type, in those areas of its fixed line footprint where NBN Co has established its network (that is, those areas that have been declared 'ready for service').
- New developments of 100 or more lots/premises¹² in those parts of NBN Co's fixed line footprint where the NBN has not yet been rolled out.
- New developments in its fixed line footprint where NBN Co has publicly identified an area as a fixed line rollout region – on the basis rollout regions are announced 12 months prior to the ready for service date.

In its role as IPOLR, NBN Co will levy the charges set out in the table on pages 10 and 11 when it services new developments. These charges are not binding on any other provider.

In the case of new developments in fixed line rollout regions (the third dot point above), pending the provision of permanent high-speed broadband solutions, NBN Co can arrange the provision of interim solutions, including voice-only solutions that are consistent with USO requirement. Interim solutions may be whether fixed or wireless. NBN Co can provide such solutions itself (consistent with its wholesale-only status) or have other parties do so on its behalf.

The Government indicated in its Telecommunications Regulatory and Structural Reform package in December 2014 that it would put in place a legislated infrastructure provider of last resort obligations on NBN Co, commencing from 1 January 2017. The obligations would take practical effect in an area as NBN Co completes its network and establishes a firm operational footing.

NBN Co can also service any other development it wishes to service, subject to its adherence to this policy and its other obligations. It is envisaged that where it has active transit network, it will be more cost effective for it to roll out infrastructure and it will have an incentive to service smaller developments. Once it is operational in an area, it becomes the IPOLR for that area. Equally it has an ability and incentive to service nearby areas, noting it will need to compete to service them.

¹² Developments of 100 or more premises are those approved for 100 or more premises over a three-year period at the time of development approval.

Given NBN Co has agreed to make a one-time payment to Telstra in respect of each premises NBN Co connects to its network that was previously served by a Telstra line, NBN Co has a commercial incentive to attempt to serve such premises without utilising Telstra, and avoid incurring this payment in addition to the normal costs of connecting the premises to its network.

4.2. The role of Telstra

Pending NBN Co being ready to provide infrastructure and services in an area, Telstra will be the IPOLR supporting voice services in:

- New developments which received planning approval before 1 January 2011 other than developments which are now being serviced by NBN Co or which were ‘landbanked’—that is, developments that had been approved before 1 January 2011 but which have not proceeded by that date.
- New developments, whether broadacre or infill, 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).¹³
- New developments in NBN Co fixed wireless and satellite areas.

Developers with developments approved before 1 January 2011, which were subsequently landbanked, need to seek a provider to service their developments in line with the general principles of this policy. Equally, if they wish to use an IPOLR they will need to lodge new applications. They will be subject to all charges and obligations applying under this policy.

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.

There may be circumstances where Telstra enters into an agreement for a development well in advance of its construction and, by the time the development comes to be constructed but prior to the estimated first occupancy date, NBN Co or a competing provider is operating a network in the area in which the development is located. In these circumstances, it will be open to Telstra to negotiate more appropriate provisioning arrangements with other providers.

Telstra’s responsibilities derive from its responsibilities as the universal service provider for the standard telephone service. They 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 the rollout of the NBN or other next generation broadband platforms.

Once NBN Co has completed its network rollout, it will essentially be the IPOLR for all of Australia, except for those areas specifically serviced by competing providers or areas where Telstra needs to provide infrastructure to fulfil its residual Universal Service Obligation (USO) to provide an end-to-end voice service.

¹³ For the avoidance of doubt, this includes sub-100 developments adjacent to where NBN Co is in operation (i.e. post ready for service) but it is not cost-effective for NBN Co to service them relative to Telstra. See footnote 13 above.

Telstra will fulfil its IPOLR role consistent with the USO relating to voice services. That is, if Telstra needs to provide voice services under the USO and the infrastructure to do that, it will need to provide the infrastructure.

Telstra can decide what technology it uses to support voice services. There may be instances where developments are best serviced using wireless technology.

Telstra is not obliged under its USO to provide broadband services, but is encouraged to provide broadband capability to the extent it is possible. It is a commercial decision as to whether and where the company does so. It is open to Telstra to provide broadband services under a commercial arrangement with a developer (subject to any contractual obligations to NBN Co under the Definitive Agreements). Telstra may seek to negotiate additional payment from NBN Co and/or developers for providing broadband. It should 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 on NBN Co's behalf).

If Telstra or another provider does not provide broadband in a new development, it will be provided in due course as part of the general NBN rollout in that area. The NBN rollout is expected to be complete in 2021.

4.3. Adjacency to NBN Co's long term fixed line footprint

There is an onus on NBN Co to consider servicing new developments that are outside but adjacent to its long term fixed line footprint. This recognises that the fixed line footprint may evolve over time as land is developed in outer areas and population moves. For the purposes of this policy, a new development is considered to be adjacent to NBN Co's fixed line footprint if the development's nearest boundary is 1000 metres or less from the nearest point of NBN Co's fixed line footprint boundary.

This onus applies consistent with NBN Co specific IPOLR obligations. That is, if a new development is 100 or more lots/premises, NBN Co should consider servicing it as a matter of course. (As noted in 4.5 below, developments of 100 or more premises are assumed to be in the long term fixed line footprint until NBN Co determines otherwise.) If NBN Co has established its fixed line network in an area abutting the outer boundary of its long term fixed line footprint, it should also consider servicing smaller adjacent developments.

In all instances, the practicality of this adjacency principle needs to be considered from a cost-benefit perspective, particularly while the NBN is being rolled out and Telstra may have infrastructure available that can more readily be used to service these types of new developments. Even though a new development may satisfy the basic adjacency principle set out above, if the new development was nevertheless in an area where Telstra had infrastructure it could use to service the development more cost-effectively, Telstra would be the provider of last resort.

Given the range of factors involved, it is impractical to have definitive upfront rules in this area. This principle provides a starting point. Ultimately any disputes that could not be resolved between the IPOLRs would need to be determined by the adjudicator.

4.4. Adjudicator

The Communications Alliance has indicated it will 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 industry. In the event that an industry adjudicator is not established, the Government will establish a suitably qualified arbitral mechanism, funded from an industry levy.

The adjudicator may also deal with other issues, for example, claims that NBN Co is inappropriately overbuilding an area without the agreement of Shareholder Ministers.

4.5. Clarifying IPOLR obligations

As the starting proposition, all new developments of 100 or more lots or premises will be assumed to be in NBN Co's long-term fixed line footprint. The onus will be on NBN Co to demonstrate that a development of this type is not in its footprint or would not be serviced by fixed line technology (i.e. it will be serviced by wireless or satellite). NBN Co will publish and keep up to date its detailed business rules¹⁴ for determining whether a new development is within or outside the fixed line footprint and, for developments that 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.

Where NBN Co concludes that a development is not in its fixed line footprint (i.e. is not to be serviced by fixed line infrastructure), it must notify the Department of Communications, the new developments adjudicator, the relevant developer and Telstra (as the alternative IPOLR and universal service provider) within five calendar days of its decision. Either Telstra or the Department of Communications can raise such a classification with the new developments adjudicator within five calendar days of receiving notification, seeking an alternative classification. The adjudicator will have in place a timely mechanism for the resolution of such matters.

NBN Co will establish and maintain an up-to-date register of developments it has determined are not in its fixed line footprint (i.e. they are not to be serviced by fixed line infrastructure), with the register reflecting any changes brought about by decisions of the adjudicator.

Telstra may raise with NBN Co or the adjudicator developments of less than 100 lots referred to it as IPOLR where it considers they are rightfully served by NBN Co under the policy or where it considers they would be more cost effectively serviced by NBN Co, in the context of the general principles set out above and the progress of the rollout of the NBN. The adjudicator will have in place a timely mechanism for the resolution of such matters.

Outside NBN Co's fixed line footprint, the Government encourages providers to look at opportunities for maximising the efficient delivery of services and optimising the long term experience for consumers.

4.6. Use of alternative networks

Both NBN Co and Telstra can seek to use alternative providers' networks to fulfil their provider of last resort obligations, either by seeking access to those networks on a commercial basis (or

¹⁴ 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.

regulated basis, if subject to regulation) or by contracting the provider to fulfil the obligations on their behalf.

The Government may also use carrier licence conditions to require alternative providers to service additional areas beyond those they are contracted to service where this is more cost-effective than other approaches.

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 will be 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 best served.

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, as noted above, NBN Co will need to notify Telstra and others where it has decided that a development is not in its long term fixed line footprint and will not be serviced with fixed line infrastructure. That is, notification is required when a decision has been made to service a new development with fixed wireless or satellite technology.

As noted above, if these matters cannot be co-ordinated, there will also be recourse to an adjudicator established by the Communications Alliance.

4.8. Pit and pipe specifications

As noted above, 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* obliges constitutional corporations involved in new developments to ensure fibre-ready pit and pipe is installed.

Under this policy developers 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 can choose to

provide pit and pipe as part of turnkey packages or other solutions, as they always have been able to do.

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 pit and pipe specifications. This will particularly be the case where the carrier is subject to a licence condition in relation to servicing new developments. For example, alternative carriers 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).¹⁵ 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.

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.

To resolve this issue, NBN Co is to work with developers and other stakeholders to simplify its pit and pipe specification with the aim that it be promulgated as the default industry standard which non-carriers would need to follow. A working group is to be established for this purpose. Preferably the standard will include a requirement that express conduits be provided. If necessary, the simplified specification will also include an exemption permitting other licensed carriers servicing new developments under the carrier licence condition to diverge from these specifications where they have their own established alternative specifications that comply with wider industry guidance, whether voluntary or mandatory, published by the Communications Alliance.

If the Communications Alliance puts in place comparable, effective, industry-based arrangements for pit and pipe, the Minister will defer to these arrangements.

NBN Co will also 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 review Part 20A and Schedule 3 of the *Telecommunications Act 1997* with a view to amending them 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 that network infrastructure transferred to a carrier attracts the same rights and immunities under Schedule 3 as if installed by a carrier.

4.9. Voice service provision

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

¹⁵ See: http://www.commsalliance.com.au/__data/assets/pdf_file/0014/32450/G645_2011.pdf.

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. NBN support for broadcasting and other value-added services

While there is strong demand in new developments for high-speed broadband and voice capability, there is also demand for other value-added services such as the delivery of broadcasting services, alarm, closed circuit television and other security systems, and facilities management and control systems. These services have generally developed by 'piggybacking' on the infrastructure deployed to support basic voice and then broadband services.

NBN Co's fundamental obligation as IPOLR is to provide infrastructure capable of supporting high-speed broadband and voice services on an open access wholesale-only basis that supports more effective retail competition. Telstra's obligation relates to the provision of voice services. In this context, NBN Co provides high speed, but low functionality Layer 2 services, meaning higher level services need to be provided by RSPs. NBN Co, however, needs to be able to support RSPs in supplying these services.

By promoting competition in servicing new developments, NBN Co will be under pressure to ensure it offers the necessary functionality for retailers. In addition to this competitive discipline, NBN Co is required under this policy to endeavour to ensure its network supports the solutions RSPs need to provide to meet consumer demand.

It is possible that a developer could choose a competing provider to service its development, possibly because it offers a broader range of functionalities, but that provider becomes unviable at a future point and discontinues operations. In the event an IPOLR had to step in, it would be a commercial matter for the IPOLR as to what functionality it would continue to provide. In some instances, regulatory requirements may be relevant, as future networks serving residential customers will generally be wholesale-only and low functionality, meaning value-added services will be developed and provided by RSPs. The Government will nevertheless continue to examine options for maximising service continuity in the event of a network operator ceasing operations and needing to be replaced by another operator.

4.11. Role of state, territory and local 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 were to eventuate, consumers would be inconvenienced and they and carriers would face additional costs.

The Government will continue to work with state, territory and local 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 Government notes the Victorian Government amended the Victorian Planning Provisions in February 2013 to require provision of telecommunications in most new developments.¹⁶

A strong theme in comments about the draft version of this policy was of the benefits that would derive from a more strategic, streamlined and integrated planning process for telecommunications in new developments to bring it into line with other forms of infrastructure. The Department of Communications will continue to work towards such an outcome.

¹⁶ 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. This part of the network – typically an optical fibre link – is called ‘backhaul’.

Backhaul typically involves a connection from the estate to the relevant point of interconnection (POI), at which traffic is handed over to RSPs. NBN Co is now operating 121 POIs. Other providers operate on a similar basis, typically providing backhaul to a data exchange where RSPs can interconnect.

If a new development is an infill project in a brownfield area, backhaul may be readily available and the cost of provision low. But if a project is in a new or previously vacant greenfield 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, potentially involving significant civil works, can still impose significant costs – 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 all network users. Equally, if developers meet the entire expense of providing backhaul, it will in many cases 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 should influence the operation of other providers.

The Government sees these as interim measures pending a more definitive solution to the backhaul issue. This may include an option, phased in over time, whereby developers contribute more to the cost of backhaul but their charges are calculated over a period long enough to determine the extent to which shared investments are amortised across multiple new developments.

5.2. Provision of backhaul services by NBN Co

First, alternative providers in new developments need ready access to backhaul services to compete effectively. While the Government expects there will be strong competitive interest in providing such service, NBN Co is to assess the market demand for the provision of backhaul services on commercial terms to alternative network operators. Such a service will enable NBN Co to leverage its transmission capacity from its NBN Fibre Access Nodes (FANs) to the relevant POI. NBN Co will establish a process for identifying demand for such services by 1 July 2015 with a view to bringing them on stream as quickly as demand warrants and its processes allow. The Government will closely monitor NBN Co activities in this regard. Other carriers would continue to be able to compete in supplying backhaul services to alternative network operators in such new developments, as they can today.

5.3. Capped backhaul contributions

Second, developers will contribute to backhaul costs incurred by NBN Co to meet its obligations in new estates. Cost recovery will only be partial at this stage.

With NBN Co's POIs now established, backhaul charging costs to developers will be calculated from the development boundary to the closest fibre access point within NBN Co's access network. In some circumstances this may require the establishment of active network at an exchange and to the POI.

NBN Co will not charge developers for backhaul where NBN Co has backhaul 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).

Where NBN Co does not have backhaul capacity available and would need to build a backhaul extension specifically for the new development:

1. Developers will make a contribution to the incremental capital cost of providing backhaul to a new development of up to 50 per cent of this capital costs up to \$1000. This means the developer contribution toward the first \$1000 per lot of capital costs is capped at \$500.¹⁷
2. Developers will also meet up to 100 per cent of all incremental backhaul costs in excess of the first \$1000 per lot 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 last 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 locating projects in high-cost areas where backhaul is not readily available and of failing to negotiate network extensions, NBN Co will be able to seek contributions payable towards the costs of fixed wireless or satellite solutions. NBN Co will be able to charge developers a contribution of \$1100 per MDU and \$1300 per SDU lot/premises (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 NBN Co could seek to recover these costs directly from the RSP ordering a first connection for new premises which required fixed wireless or satellite solutions on or after 1 July 2015. NBN Co will need to record the entitlements of new lots in the wireless and satellite footprint – and this information will be publicly available.

¹⁷ 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 ($(\$300,000/2000 \text{ lots} = \$150) \times 50\%$ - 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.

In summary, the charges NBN Co will 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 per premises (SDUs and MDUs).
Development is in fixed line footprint. NBN backhaul is not accessible – costs beyond the first \$1000.	Up to 100% of incremental capital costs over \$1000, as set out in rate card, in addition to up to 50% of incremental capital costs, capped at \$500 of the first \$1000 per premises (SDUs and MDUs).
Contribution to fixed wireless or satellite (as determined by NBN Co)	\$1100 (MDUs) or \$1300 (SDUs)

These contributions are payable for developments approved by NBN Co on and after 1 July 2015.

5.4. Measures to assist developers with backhaul charges

During consultation on the draft policy, developers expressed particular concerns about charges for backhaul because of their potential variability and magnitude. In light of this, the Government has added to the policy a number of measures to provide developers with greater confidence in this area and to phase in backhaul contributions.

Under the draft policy, developers were to be required to contribute to backhaul from 1 March 2015. To provide the development industry with more time to adjust to this change, backhaul charges will now apply to new development applications accepted by NBN Co on and after 1 July 2015.

NBN Co will also put in place a transitional arrangement by which it recovers backhaul costs in three instalments over a two year period. The efficiency and effectiveness of this arrangement will be subject to a review by NBN Co in consultation with developers before the end of the 2016 calendar year.

In a competitive market there will be strong disciplines on NBN Co to be responsive to the needs of developers. Nevertheless, under this policy NBN Co will also be required to:

- provide developers with early planning information and indicative backhaul costs, including where developers are looking to acquire land for development;
- provide up-to-date information on the availability of backhaul generally;
- develop long-term planning strategies and processes to identify greenfields rollout areas to allow for a more integrated planning approach to development corridors and infill growth areas;
- develop cost sharing and rebate schemes to address first mover disadvantages; and
- look for opportunities to reduce backhaul costs through co-development with other utilities.

In a competitive marketplace NBN Co's competitors will be under pressure to offer comparable services to win the business of developers.

In addition, as noted above, there will be no charge for backhaul where it is readily available as part of NBN Co's transit network or previous civil works. Analysis by NBN Co of past projects suggests a clear majority of new estates are within one kilometre of existing backhaul and as such would not face backhaul charges. A further significant percentage are in close proximity to backhaul and would not require additional capital costs in excess of \$1000 per lot. Only a small single-digit percentage of developments would face backhaul charges in excess of \$1000 per lot.

Moreover, as NBN Co's footprint expands, so will its available transit and distribution networks, making backhaul charges less common and less onerous.

As noted above, NBN Co will also be required to consider and respond to commercial demand from alternative providers for backhaul.

As noted in section 4.9 above, this policy requires NBN Co to endeavour to ensure its network supports the solutions RSPs need to provide to meet consumer demand, such as the delivery of subscription and free to air television programming and other value-added services.

NBN Co will also refine its processes for bringing RSPs onto its network and initially connecting new end-users in new developments so as to improve end-user experience.

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 infrastructure – and as long as the infrastructure in their estate adheres to NBN standards, and they have certainty that they can transfer the network and responsibility for its operation to NBN Co, and they can recover their costs.

6.1. Build and transfer

Where developers are interested and it is commercially feasible for NBN Co, NBN Co will be able to trial and implement arrangements whereby 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 timing and nature of these arrangements are a matter for NBN Co. However, NBN Co will need to inform the Shareholder Ministers in advance of such activities and report back to them promptly on the outcomes.

It is envisaged such arrangements would require networks to be 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.

Arrangements would be pre-agreed before construction begins, so all parties have certainty regarding what must be built by when, and the payments involved. It would 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

As always, 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. What is different now is that NBN Co is under strict instructions to maximise efficiency in serving new developments and needs to look actively at whether alternative delivery models can help it do this. 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 to operate, 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.

NBN Co can pursue such models, consistent with the Government's general guidance to NBN Co to consider innovative delivery models including co-investment and public-private partnerships.

A forum with developers will be established as required to discuss implementation issues, including implementation of these models.

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. It also recognises that the changes set out in this policy, particularly the introduction of charging, are significant for the sector.

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.

Consistent with the draft policy released in December 2014, NBN Co will be able to recover contributions for network deployment in new developments (\$400 per MDU premises and \$600 per SDU lot/premises) for all development applications accepted on or after 1 March 2015. These charges will not apply retrospectively to any applications already accepted by NBN Co before 1 March 2015 or development stages under contract within an existing master developer agreement. Moreover, because developers must give a minimum of six months' notice of their need for infrastructure, these charges will not be payable for some months, until NBN Co starts providing the infrastructure required.

As noted above, under the draft policy, developers were to be required to contribute to backhaul from 1 March 2015. To provide the development industry with more time to adjust to this change, backhaul charges will now apply to new development applications accepted by NBN Co on or after 1 July 2015.

The one-time end-user contribution of \$300 per premises charged to RSPs will come into effect on and from 1 July 2015, subject to relevant implementation processes. Consistent with the draft policy, the contribution will only be charged once to the RSP which places an order for an NBN service for a new premises in a new development, both pre-existing and new. This approach to commencement will provide further time for both the development and telecommunications industry to adjust.

NBN Co will establish a process for identifying alternative provider demand for access to its backhaul services by 1 July 2015.

For convenience these dates are set out in chronological order in section 9.

While charges are payable from the above dates, and developers and other parties will be liable for them, collection may initially be subject to NBN Co augmenting or extending its business and operational IT systems as needed to implement this policy. Any interim arrangements may be reflected in contracts as required.

Other mechanisms to support the policy such as the carrier licence conditions and the online portal providing up-to-date mapping of new developments are to be in place by 1 July 2015. Stakeholders will be consulted in their implementation.

The Government understands the importance of communications to a successful transition, and is committed to ensuring clear, timely and accurate information is provided. The Department of

Communications will work with developer associations, NBN Co and other stakeholders to achieve a smooth migration to the new arrangements. Where useful this will include stakeholder forums.

As always, comments or queries about the policy and its implementation can be directed to the Department of Communications at greenfields@communications.gov.au.

Operational issues can be directed to the IPOLRs (NBN Co at newdevelopments@nbnco.com.au and Telstra via www.telstra.com.au/smart-community) in line with their responsibilities as set out above.

Alternative competing providers can be contacted directly. Developer associations are encouraged to establish lists of suitable suppliers to assist their members. It is also open to them to establish their own accreditation schemes, potentially in cooperation with the telecommunications sector.

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
end-user	The person who contracts with an RSPs for a telecommunications service – and more generally any person who uses such a service
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 premises, generally more than three, which may be residences, businesses or serving some other function.
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 – a distinct, stand-alone premises, such as a detached suburban house or premises in a duplex, which may be a residence, business or serving some other function.
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

The glossary is designed to provide general guidance for the lay reader. The definitions are not intended to be precise legal definitions.

9. KEY DATES

Date	Event
1 March 2015	<ul style="list-style-type: none"> Per premises charges for in-development infrastructure (\$600 per SDU lot/premises and \$400 per MDU) apply for applications accepted by NBN Co on and after this date. Minimum six months notification requirement commences.
2Q 2015	<ul style="list-style-type: none"> Review of pit and pipe specifications
1 July 2015	<ul style="list-style-type: none"> Backhaul charges apply to new development applications accepted by NBN Co on or after this date. The one-time end-user contribution of \$300 per premises charged to retail service providers comes into effect, subject to relevant implementation processes. NBN Co to have established a process for identifying alternative provider demand for access to its backhaul services.
1 September 2015	<ul style="list-style-type: none"> First date for provision of infrastructure under the six month notification rule.
2016	<ul style="list-style-type: none"> Review of instalment process for payment of backhaul